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**San Francisco Bay Area  
1990 Regional Travel Characteristics**

**Working Paper #4**

**1990 MTC Travel Survey**

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**Working Paper #4**

**1990 MTC Travel Survey**

by  
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## Table of Contents

	<u>Page</u>
1.0 Introduction . . . . .	1
2.0 Weekday 1990 Regional Travel . . . . .	5
2.1 Components of Regional Travel . . . . .	6
2.2 Weekday Travel by Trip Purpose and Travel Mode . . . . .	9
2.3 Distribution of Weekday Trips by Time of Day . . . . .	16
2.4 Reported Trip Duration by Trip Purpose and Travel Mode . . . . .	30
3.0 Weekday 1990 Regional Household Trip Rates . . . . .	41
3.1 Regional Trip Rates by Trip Purpose and Travel Mode . . . . .	41
3.2 Regional Trip Rates by Household Size . . . . .	43
3.3 Regional Trip Rates by Household Income . . . . .	50
3.4 Regional Trip Rates by Vehicle Availability . . . . .	56
3.5 Regional Trip Rates by Housing Structure Type . . . . .	61
3.6 Regional Trip Rates by County of Residence . . . . .	63
3.7 Regional Trip Rates by Workers in Household . . . . .	66
3.8 Regional Trip Rates by Household Life Cycle . . . . .	71
3.9 Regional Trip Rates by Household Size by Vehicle Availability . . . . .	75
3.10 Regional Trip Rates by Household Size by Workers in Household . . . . .	79
3.11 Regional Trip Rates by Workers in Household by Vehicle Availability . . . . .	83
3.12 Regional Trip Rates by Density-Based Area Type . . . . .	87
4.0 Weekday 1990 Travel by Personal Characteristics . . . . .	93
4.1 Travel by Age of Person . . . . .	93
4.2 Travel by Age and Gender of Person . . . . .	102
4.3 Travel by Employment Status and by Gender of Person . . . . .	108
4.4 Travel by Drivers License and by Gender of Person . . . . .	112
4.5 Travel by Disability Status and by Gender of Person . . . . .	116
5.0 Weekday 1990 County Travel . . . . .	120
5.1 County Trips by Trip Purpose . . . . .	120
5.2 County Trips by Travel Mode . . . . .	124
5.3 County-to-County Trips . . . . .	132
5.4 County-Level Vehicle Occupancy . . . . .	136
<u>Appendices</u>	
Appendix 1.0 . . . . .	138
Appendix 2.0 . . . . .	152
Appendix 3.0 . . . . .	179
Appendix 5.0 . . . . .	195
<u>References</u> . . . . .	<b>208</b>
Acknowledgments . . . . .	209



## LIST OF TABLES

1.1	Characteristics of Household Travel Surveys Conducted in the San Francisco Bay Area . . . .	4
2.1.1	Components of Regional Travel: Intraregional vs Interregional . . . . .	7
2.1.2	Intraregional and Interregional Trips by Trip Purpose . . . . .	8
2.2.1	1990 Regional Weekday Trips by Purpose and Detailed Travel Mode . . . . .	12
2.2.2	1990 Regional Weekday Trips by Trip Purpose at Origin & Destination . . . . .	13
2.2.3	1990 Regional Weekday Trips by Trip Purpose and Travel Mode . . . . .	14
2.2.4	1990 Regional Weekday Vehicle Occupancy by Trip Purpose . . . . .	15
2.3.1	Distribution of 1990 Regional Weekday Trips by Time of Day — Time at Trip Origin: Comparison by Mode & Trip Purpose . . . . .	20
2.3.2	Distribution of 1990 Regional Weekday Trips by Time of Day — Time at Trip Destination: Comparison by Mode & Trip Purpose . . . . .	21
2.3.3	Distribution of Regional 1990 Weekday Trips-in-Motion by Time-of-Day: Percent Peak Hour of Daily & Percent Work Trips of Peak Hour . . . . .	22
2.4.1	Regional 1990 Weekday Reported Trip Duration by Purpose and Mode . . . . .	33
2.4.2	Regional 1990 Trip Duration Frequency Distribution by Trip Purpose . . . . .	34
2.4.3	Regional 1990 Trip Duration Frequency Distribution by Travel Mode . . . . .	38
3.1	1990 Regional Trip Rates by Purpose and Mode . . . . .	42
3.2.1	1990 Regional Transit Share for Trips per Household by Household Size . . . . .	47
3.2.2	1990 Regional Household Characteristics by Household Size . . . . .	49
3.3.1	1990 Regional Trips per Household by Household Income Tertile . . . . .	52
3.3.2	1990 Regional Trips per Person by Household Income Tertile . . . . .	53
3.3.3	1990 Regional Trips per Household by Household Income Quartile . . . . .	54
3.3.4	1990 Regional Trips per Person by Household Income Quartile . . . . .	55
3.4.1	1990 Regional Transit Share for Trips per Household by Vehicle Availability . . . . .	58
3.4.2	1990 Regional Household Characteristics by Vehicle Availability . . . . .	60
3.5	1990 Regional Transit Share for Trips per Household by Structure Type . . . . .	62
3.6	1990 Regional Transit Share for Trips per Household by County of Residence . . . . .	65
3.7.1	1990 Regional Trips per Household by Workers in Household . . . . .	68
3.7.2	1990 Regional Trips per Person by Workers in Household . . . . .	69
3.8.1	1990 Regional Trips per Household and per Person by Household Life Cycle . . . . .	73
3.8.2	1990 Regional Trips per Household by Trip Purpose by Household Life Cycle . . . . .	74
3.9.1	1990 Regional Trips per Household by Household Size by Vehicles Available per Household — Total Modes . . . . .	76
3.9.2	1990 Regional Trips per Person by Household Size by Vehicles Available per Household — Total Modes . . . . .	77
3.9.3	1990 Households and Household Population by Household Size by Vehicles Available per Household . . . . .	78
3.10.1	1990 Regional Trips per Household by Household Size by Workers per Household — Total Modes . . . . .	80
3.10.2	1990 Regional Trips per Person by Household Size by Workers per Household — Total Modes	81
3.10.3	1990 Households and Household Population by Household Size by Workers per Household	82



3.11.1 1990 Regional Trips per Household by Workers per Household by Vehicles Available per Household — Total Modes . . . . .	84
3.11.2 1990 Regional Trips per Person by Workers per Household by Vehicles Available per Household — Total Modes . . . . .	85
3.11.3 1990 Households and Household Population by Workers per Household by Vehicles Available per Household . . . . .	86
3.12.1 1990 Regional Transit Share for Trips per Household by Area Type . . . . .	90
3.12.2 1990 Regional Walk Share for Trips per Household by Area Type . . . . .	91
3.12.3 1990 Regional Bicycle Share for Trips per Household by Area Type . . . . .	92
4.1.1 Average Trips per Person and Trip Purpose Share by Age of Trip Maker . . . . .	95
4.1.2 Average Trips per Person and Trip Purpose Share by Age Group . . . . .	99
4.1.3 Modal Share for Work and Total Trips by Age Group . . . . .	101
4.2.1 Share of Population Reporting Travel by Age and Gender . . . . .	105
4.2.2 Average Trips per Person and Trip Purpose Share by Age Group by Gender . . . . .	106
4.2.3 Modal Share for Work and Total Trips by Age Group by Gender . . . . .	107
4.3.1 Average Trips per Person and Trip Purpose Share by Employment Status by Gender . . . . .	110
4.3.2 Modal Share for Work and Total Trips by Employment Status by Gender . . . . .	111
4.4.1 Average Trips per Person and Trip Purpose Share by Driver's License by Gender . . . . .	113
4.4.2 Characteristics of Persons by Driver's License, Age and Gender . . . . .	114
4.4.3 Modal Share for Work and Total Trips by Driver's License by Gender . . . . .	115
4.5.1 Average Trips per Person and Trip Purpose Share by Disability Status by Gender . . . . .	118
4.5.2 Modal Share for Work and Total Trips by Disability Status by Gender . . . . .	119
5.1.1 1990 Weekday Trips by Trip Purpose and County of Production . . . . .	122
5.1.2 1990 Weekday Trips by Trip Purpose and County of Attraction . . . . .	123
5.2.1 1990 Weekday Home-Based Work Trips by Mode and County of Production . . . . .	127
5.2.2 1990 Weekday Home-Based Work Trips by Mode and County of Attraction . . . . .	128
5.2.3 Comparison of 1990 Census and 1990 Survey Modal Shares: Work Trips by County of Residence	129
5.2.4 1990 Weekday Total Trips by Mode and County of Production . . . . .	130
5.2.5 1990 Weekday Total Trips by Mode and County of Attraction . . . . .	131
5.3.1 1990 Home-Based Work Trip Productions, Attractions, and Intra-County Trips . . . . .	134
5.3.2 1990 Total Trip Productions, Attractions, and Intra-County Trips . . . . .	135
5.4 1990 Vehicle Occupancy by Trip Purpose . . . . .	137



## APPENDIX TABLES

2.2.2A 1990 Regional Weekday Trips by Detailed Purpose at Origin and Destination . . . . .	153
2.3.1A 1990 Dist. of Regional Weekday Trips by Time of Day: Total Modes: Time at Trip Origin . . . . .	154
2.3.2A 1990 Distribution of Regional Weekday Trips by Time of Day: Total Modes: Time at Trip Destination . . . . .	155
2.3.3A 1990 Distribution of Regional Weekday Trips by Time of Day: Person Modes: Time at Trip Origin . . . . .	156
2.3.4A 1990 Distribution of Regional Weekday Trips by Time of Day: Person Modes: Time at Trip Destination . . . . .	157
2.3.5A 1990 Distribution of Regional Weekday Trips by Time of Day: Transit Modes: Time at Trip Origin . . . . .	158
2.3.6A 1990 Distribution of Regional Weekday Trips by Time of Day: Transit Modes: Time at Trip Destination . . . . .	159
2.3.7A 1990 Distribution of Regional Weekday Trips by Time of Day: Vehicle Driver Modes: Time at Trip Origin . . . . .	160
2.3.8A 1990 Distribution of Regional Weekday Trips by Time of Day: Vehicle Driver Modes: Time at Trip Destination . . . . .	161
2.3.9A 1990 Distribution of Regional Weekday Trips by Time of Day: Drive Alone Modes: Time at Trip Origin . . . . .	162
2.3.10A 1990 Distribution of Regional Weekday Trips by Time of Day: Drive Alone Modes: Time at Trip Destination . . . . .	163
2.3.11A 1990 Distribution of Regional Weekday Trips by Time of Day: Shared Ride Modes: Time at Trip Origin . . . . .	164
2.3.12A 1990 Distribution of Regional Weekday Trips by Time of Day: Shared Ride Modes: Time at Trip Destination . . . . .	165
2.3.13A Trips-in-Motion Analysis for 1990 Weekday Total Trips . . . . .	166
2.3.14A Trips-in-Motion Analysis for 1990 Weekday Person Trips . . . . .	167
2.3.15A Trips-in-Motion Analysis for 1990 Weekday Transit Trips . . . . .	168
2.3.16A Trips-in-Motion Analysis for 1990 Weekday Vehicle Driver Trips . . . . .	169
2.3.17A Trips-in-Motion Analysis for 1990 Weekday Vehicle Passenger Trips . . . . .	170
2.3.18A Trips-in-Motion Analysis for 1990 Weekday Walk Trips . . . . .	171
2.3.19A Trips-in-Motion Analysis for 1990 Weekday Bicycle Trips . . . . .	172
2.3.20A Trips-in-Motion Analysis for 1990 Weekday Home-Based Work Trips . . . . .	173
2.3.21A Trips-in-Motion Analysis for 1990 Weekday Home-Based Shop (Other) Trips . . . . .	174
2.3.22A Trips-in-Motion Analysis for 1990 Weekday Home-Based Social/Recreation Trips . . . . .	175
2.3.23A Trips-in-Motion Analysis for 1990 Weekday Home-Based School Trips . . . . .	176
2.3.24A Trips-in-Motion Analysis for 1990 Weekday Non-Home-Based Trips . . . . .	177
2.3.25A Trips-in-Motion Analysis — Share of Trips by Trip Purpose by Time Period . . . . .	178

3.2.1A	1990 Regional Trips per Household by Household Size . . . . .	180
3.2.2A	1990 Regional Trips per Person by Household Size . . . . .	181
3.3.1A	1990 Regional Trips per Household by Detailed Household Income Group . . . . .	182
3.3.2A	1990 Regional Trips per Person by Detailed Household Income Group . . . . .	183
3.3.3A	1990 Regional Transit Share for Work and Total Trips per Household by Income . . . . .	184
3.4.1A	1990 Regional Trips per Household by Vehicle Availability . . . . .	185
3.4.2A	1990 Regional Trips per Person by Vehicle Availability . . . . .	186
3.5.1A	1990 Regional Trips per Household by Housing Structure Type . . . . .	187
3.5.2A	1990 Regional Trips per Person by Housing Structure Type . . . . .	188
3.6.1A	1990 Regional Trips per Household by County of Residence . . . . .	189
3.6.2A	1990 Regional Trips per Person by County of Residence . . . . .	191
3.12.1A	1990 Regional Trips per Household by Density-Based Area Type . . . . .	193
3.12.2A	1990 Regional Trips per Household by Density-Based Area Type . . . . .	194
5.3.1A	1990 County-to-County Home-Based Work Trips by Mode . . . . .	196
5.3.2A	1990 County-to-County Home-Based Shop (Other) Trips by Mode . . . . .	198
5.3.3A	1990 County-to-County Home-Based Social/Recreation Trips by Mode . . . . .	200
5.3.4A	1990 County-to-County Home-Based School Trips by Mode . . . . .	202
5.3.5A	1990 County-to-County Non-Home-Based Trips by Mode . . . . .	204
5.3.6A	1990 County-to-County TOTAL Trips by Mode . . . . .	206



## **LIST OF FIGURES**

2.3.1 1990 Weekday Trips in Motion by Time-of-Day by Trip Purpose . . . . .	23
2.3.2 1990 Weekday Home-Based Work Trips in Motion by Time-of-Day . . . . .	24
2.3.3 1990 Weekday Home-Based Shop (Other) Trips in Motion by Time-of-Day . . . . .	25
2.3.4 1990 Weekday Home-Based Social/Recreation Trips in Motion by Time-of-Day . . . . .	26
2.3.5 1990 Weekday Home-Based School Trips in Motion by Time-of-Day . . . . .	27
2.3.6 1990 Weekday Non-Home-Based Trips in Motion by Time-of-Day . . . . .	28
2.3.7 Trip Purpose Share by Time-of-Day . . . . .	29
2.4.1 Trip Duration Frequency Distribution: Weekday Trips by Trip Purpose . . . . .	37
3.2.1 1990 Trips per Household by Household Size and Trip Purpose . . . . .	45
3.2.2 1990 Trips per Person in Household by Household Size and Trip Purpose . . . . .	46
3.2.3 Regional Transit Share by Household Size . . . . .	48
3.4.1 Regional Transit Share by Vehicle Availability . . . . .	59
3.7.1 1990 Trips per Household by Workers in Household by Trip Purpose . . . . .	70
4.1.1 Average Total Trips per Person by Age of Trip Maker . . . . .	97
4.1.2 Share of Trips by Trip Purpose by Age of Trip Maker . . . . .	98
4.1.3 Share of Trips by Trip Purpose by Age Group . . . . .	100

## 1.0 Introduction

This working paper is the fourth in a series to document analysis and results from the 1990 MTC household travel survey. Previous working papers on the 1990 travel survey covered survey design issues, sample weighting and expansion, and trip linking procedures.

Working paper #4 on the 1990 household travel survey is structured similarly to working paper #8 on the 1981 MTC household travel survey (*1980 Regional Travel Characteristics: Working Paper #8: 1981 MTC Travel Survey*, published June 1983.) The reader is encouraged to compare and contrast results from the 1981 and 1990 Bay Area travel surveys by using this working paper alongside the older report. The report structure and table numbering sequence are similar so as to assist in comparisons.

The purpose of this paper is to report weighted and expanded results of the 1990 household travel survey in terms of regional and sub-regional travel characteristics. The focus of this research is 1990 average weekday, intraregional personal travel made by residents of the nine-county San Francisco Bay Area. Excluded from this analysis are weekend travel, interregional travel, commercial travel, and travel made by non-residents of the Bay Area. Weighted, expanded travel data in this report is based on the "single-weekday" sample from the 1990 household survey (see discussion below on the "single-weekday" versus "multiple-weekday" samples.)

Section 2.0 of this report describes 1990 average weekday regional travel inferred from the 1990 household travel survey. This section includes information on the components of regional travel, travel by trip purpose and travel mode, travel by time-of-day, and reported trip duration.

Section 3.0 of this working paper describes average regional household trip rates (trips per household, trips per person-in-household) by various classifications. Trip rates are reported by trip purpose and by travel mode.

Section 4.0 of this working paper discusses travel patterns classified by the personal characteristics of the trip maker. These characteristics include age, gender, employment status, drivers license status, and disability status. (Note that there is not a comparable section in the 1981 travel survey working paper #8 on travel patterns by personal characteristics.)



Section 5.0 of this working paper reports on county-level trip rates and county-to-county travel patterns inferred from the weighted, expanded survey data files.

Appendices to Working Paper #4 provide additional detailed information to augment the main set of tables. The appendix tables contain detailed information on travel by time-of-day (time at trip start, time at trip destination, "trips-in-motion"), detailed trip rates by trip purpose by travel mode by various categories, and detailed county-to-county person trip tables by trip purpose and travel mode.

Appendix #1 to Working Paper #4 includes copies of the telephone interview forms used in the 1990 survey; and copies of the trip diary cards and instructions mailed to survey respondents.

### **Background: Household Travel Surveys in the San Francisco Bay Area**

The 1990 MTC household travel survey is the third household travel survey conducted in the Bay Area over the past 25 years. Characteristics of these three surveys are summarized in Table 1.1.

The first major survey, the 1965 home-interview survey, collected weekday and weekend daily travel data from over 30,000 Bay Area households. This was a traditional face-to-face "home interview" survey, where staff of the Bay Area Transportation Study Commission (BATSC) went into the homes of Bay Area residents to conduct the survey. In addition to the traditional household travel survey, the 1965 survey efforts included truck/taxi surveys and other auxiliary surveys for development of a comprehensive regional transportation planning database.

The second major household travel survey in the Bay Area was conducted in 1981. This was a telephone survey, where initial contacts were made by telephone; travel diary cards were mailed to participating households; and travel diary data was retrieved in follow-up phone calls. The 1981 survey collected weekday and weekend daily travel data from over 7,000 households during the spring of 1981.

The 1990 household travel survey was similar to the 1981 survey in terms of respondent contact and data collection techniques. The 1990 survey collected single-weekday travel data from nearly 9,400 Bay Area households and multiple-weekday travel data from nearly 1,500 Bay Area households. The 1990 survey effort also included a separate sub-project, funded by the Bay Area Rapid Transit District, to

collect multiple-weekday travel data from 1,000 BART-using households. (The BART-using households were identified and contacted based on responses to on-board surveys conducted by the BART District in 1988 and 1989). The BART survey and the MTC multiple-weekday survey were completed in the spring of 1990; the MTC single-weekday survey was continued and completed during the autumn of 1990.

The MTC/BART multiple-weekday household travel surveys were the first large-scale attempt at collecting multiple-weekday travel data in the United States. This database will be used for exploratory analysis into the day-to-day variability of travel within the Bay Area as well as other research and travel model development exercises. Other international multiple-weekday household travel surveys include the 1973 Reading, England surveys; the 1971 Uppsala, Sweden surveys; and the 1984 wave of the Dutch National Mobility Panel Survey. Recent (1994) efforts at conducting multiple-weekday surveys include the Portland, Oregon Metropolitan Service District (Metro) household travel surveys.

Working Paper #4 results are based on the MTC single-weekday household travel survey sample, not the multiple-weekday sample.



**Table 1.1**  
**Characteristics of Household Travel Surveys**  
**Conducted in the San Francisco Bay Area**

Characteristic	1965 Home Interview Survey	1981 Telephone Travel Survey	1990 Telephone Travel Survey
# of HHs, Weekday	20,486	6,209	9,359
# of HHs, Weekend	10,200	882	0
# of HHs, MultiDay	0	0	1,479
# of HHs, Total	30,686	7,091	10,838
TOTAL HOUSEHOLDS	1,387,000	1,970,500	2,246,200
Average Sampling Rate	2.21%	0.36%	0.48%
Survey Cost (current \$)	\$1,533,500	\$337,000	\$1,000,000
Survey Cost (1990 \$)	\$6,672,000	\$498,000	\$1,000,000
Cost per Interview (1990 \$)	\$217	\$70	\$92
Methodology	Home-Interview (Face-to-Face) "Pencil-and-Paper"	Telephone; phone retrieval of trip diaries "Pencil-and-Paper"	Telephone; phone retrieval of trip diaries "Pencil-and-Paper"
Households Contacted	NA	11,000	23,600
Survey Response Rate	NA	64.5%	45.9%
Survey Conducted by. . . .	In-House (Bay Area Transportation Study Commission)	Consultants: Crain & Assoc. Opinion Research	Consultants: E.H. White & Co. Nelson/Nygaard Phase III Market

## 2.0 Weekday 1990 Regional Travel

This section reports the aggregate total number of weekday trips made by Bay Area residents in 1990. The trips are estimated from the weekday daily travel diaries from the MTC "single-day" sample. Appendix 1 provides information on the detailed survey data items, definitions and abbreviations used in this working paper.

The detailed trip purposes recorded in this survey are aggregated to five general purposes:

- Home-Based Work
- Home-Based Shop (Other)
- Home-Based Social/Recreation
- Home-Based School
- Non-Home-Based

A distinction is made between "home-based" and "non-home-based" trips. Home-based trips are those that start or end at the residence of the tripmaker. Non-home-based trips are those that have neither trip end at home.

Home-based work trips are those made by employed persons directly from home-to-work and work-related business, and back to home. Home-based social/recreation trips are those made by household members from home-to-visit, eat a meal, recreation, and back to home. Home-based school trips are those made by students from home-to-school and school-to-home. Home-based shopping is a catchall category for the balance of home-based trips. It includes grocery shopping, comparison and convenience shopping, personal business, medical/dental, serving or "escorting" passengers, other trip purposes, and back-to-home.

In a similar manner to trip purposes, the 24 survey travel modes are aggregated to seven general means of transportation:

- Vehicle Driver
- Vehicle Passenger
- Transit Passenger
- School Bus Passenger
- Walk
- Bicycle
- Other

Vehicle driver includes automobile driver, truck driver, van driver, and motorcycle driver. Vehicle passenger includes auto, truck, van and motorcycle passengers.

**Transit includes all public bus, rail and ferry passenger modes. Walk, school-bus and bicycle are stand alone travel modes. Mode other is a catchall category to include airplane, moped, and "other" (e.g., skateboard, rollerblades, wheelchair, horse, boat).**



## 2.1 Components of Regional Travel

The purpose of this subsection is to identify the different travel markets that comprise regional travel in the Bay Area, and to understand the nature and scope of the 1990 household travel survey in providing information on these markets.

Regional travel can be characterized in several dimensions. The first dimension discussed is that of commercial versus personal travel. Commercial trips are made by drivers (and possibly passengers) of commercial vehicles as part of their daily work activities. Commercial trips include the delivery of goods, services, and passengers (bus drivers, train operators). Personal trips are made to satisfy the travel demands of households and household members.

A second dimension of regional travel is by internal trips versus external trips. These are also known as the intraregional versus interregional travel markets. Intraregional trips are those trips both beginning and ending in the same region. Interregional trips have at least one trip end located outside the region. Interregional trips may also be through trips, with neither end of a trip located in the region.

A third dimension of regional travel is for resident and non-resident travel. Resident travel within a region is self-evident. Non-resident travel can be further broken down into tourist travel, work business travel, personal business travel and commute travel. Non-resident travel can be either intraregional (both ends of the trip within the Bay Area) or interregional (typically, commuters from the Central Valley commuting to jobs in the Bay Area). Since the 1990 Bay Area household travel survey was based on Bay Area resident households, no information on non-resident travel patterns are available, or reported from this survey.

Bay Area resident intraregional and interregional trips are summarized in Table 2.1.1. Both sample and expanded trips are shown. Of the 17.1 million daily person trips in the Bay Area, 1.2 percent are interregional and 98.8 percent are intraregional. Intraregional and interregional trips by the five general trip purposes are shown in Table 2.1.2. Interregional trips tend to be oriented to home-based social/recreation travel as well as non-home-based travel (neither end of the trip at the residents' home). Overall, 26.3 percent of Bay Area residential trips are home-based work trips; **24.9 percent are home-based shop (other); 11.1 percent are home-based social/** recreation; 9.7 percent are home-based school; and 28.0 percent are non-home-based.

**Table 2.1.1**

**Components of Regional Travel: Intraregional vs Interregional**

Survey Component	Component of Travel	Sampled Trips	Expanded Trips	Percent of
				Total Daily Person Trips
Single Day Sample	Intraregional (I/I)	69,914	16,966,735	98.8%
	Interregional (I/X)	860	197,478	1.2%
	Total	70,774	17,164,213	100.0%
Multiple Day Sample	Intraregional (I/I)	36,795	NA	NA
	Interregional (I/X)	367	NA	NA
	Total	37,162	NA	NA



**Table 2.1.2**  
**Intraregional and Interregional Trips by Trip Purpose**

Trip Purpose	Intra- Regional	Percent of Total	Inter- Regional	Percent of Total	Total Trips	Percent of Total
Home-Based Work	4,471,983	26.4%	37,987	19.2%	4,509,970	26.3%
Home-Based Shop	4,247,776	25.0%	23,802	12.1%	4,271,578	24.9%
Home-Based Social/Recreation	1,858,435	11.0%	43,966	22.3%	1,902,401	11.1%
Home-Based School	1,671,377	9.9%	1,392	0.7%	1,672,769	9.7%
Non-Home-Based	4,717,164	27.8%	90,331	45.7%	4,807,495	28.0%
Total	16,966,735	100.0%	197,478	100.0%	17,164,213	100.0%

## 2.2 Weekday Travel by Trip Purpose and Travel Mode

This section reports on the expanded, weekday travel by trip purpose and travel mode. This consists of the region's 17 million intraregional daily person trips.

Regional trips by the detailed travel modes and the five general trip purposes are shown in Table 2.2.1. The lower part of Table 2.2.1 shows regional trips with travel modes aggregated to seven general travel means by five general trip purposes. Twenty-four separate modes were collected in the 1990 survey.

The largest share and number of trips in the Bay Area is automobile drivers, at 10.7 million out of the 17.0 million regional trips, or 63 percent of all trips. The second largest market is automobile passengers, comprising 2.7 million trips, 16.2 percent of all trips. Walk trips are the third largest travel mode, with 1.7 million daily walk trips, or 9.9 percent of all daily trips in the region. After walk trips, public bus passengers account for 691,000 trips (4.1 percent); bicycle trips are 254,000 trips (1.5 percent); and BART (Bay Area Rapid Transit) accounts for 252,000 daily trips (1.5 percent).

Transit trips comprise 6.3 percent of all trips in the Bay Area in 1990. Bus passengers are 64.3 percent of all transit riders in the Bay Area, followed by BART with 23.4 percent of transit ridership; and streetcar modes with 4.6 of all transit ridership. Table 2.2.1 can also be used to characterize the trip purpose share for transit sub-modes. Overall, 41.8 percent of all transit trips are home-based work. In comparison, 61.5 percent of BART trips and 80 percent of CalTrain trips are home-based work.

Regional trips by general purpose at trip origin and general purpose at trip destination are summarized in Table 2.2.2. (Regional trips by detailed trip origin purpose and detailed trip destination purpose are summarized in appendix Table 2.2.2A.) The trip purposes "work" and "work-related" are broken out separately in this table. This information is useful in showing some of the imbalances in home-based work trips depending if the home-end of a trip is the origin or destination. Note that regional home-to-work trips (2.24 million) are 18.6 percent higher than work-to-home trips (1.89 million). This is because people are more likely to divert from their work-to-home commute to take care of personal business or shopping trips. **In the morning (typical home-to-work and home-to-school commute) workers (and students) are more likely to head directly to work (or school).**



Note that the largest non-home-based (NHB) submarket is for shop(other)-to-shop(other) trip purposes (1.01 million out of 4.72 million trips). The second largest non-home-based submarket are the work-to-social/recreation and social/recreation-to-work trips (723,000) which are, for the most part, midday work-to-lunch and lunch-to-work trips. Non-home-based trips can further be broken down into non-home-based work-or-work-related trips (NHBW) at 2.55 million trips (54 percent of all NHB trips); and non-home-based non-work trips (NHBNW) at 2.17 million trips (46 percent of all NHB trips).

Regional trips by general trip purpose and general travel mode are shown in Table 2.2.3. The row percentages in this table are mode-specific trip purpose shares. The column percentages are purpose-specific modal shares. Vehicle driver mode shares range from 21 percent for home-based school trips to 78 percent for home-based work trips. Vehicle passenger mode shares range from a low of 12.2 percent for home-based work trips to a high of 26.3 percent for home-based shop (other) trips.

Transit mode shares for home-based shop, home-based social/recreation and non-home-based trip purposes are approximately the same at 3.3 to 4.3 percent of all trips. Home-based work trips (10.0 percent) and home-based school trips (11.3 percent) have significantly higher transit shares.

Bicycle mode shares range from 0.9 percent of non-home-based trips to 4.2 percent of home-based school trips. The home-based work bicycle share is 1.3 percent. Walk mode shares range from 3.0 percent of home-based work trips to 21.5 percent of home-based school trips.

The plurality of regional transit trips (41.8 percent) are for home-based work trips. In contrast, only 8.1 percent of regional walk trips are from home-to-work or work-to-home. The plurality of regional walk trips (38.4 percent) are non-home-based trips.

Note that the mode "school bus passenger" are assigned exclusively to the home-based school trip purpose. Trips where the respondent reported travel as a school bus passenger, but for other than school trip purposes, are grouped together in most of the analyses in this working paper as mode "other."

Regional vehicle occupancy rates are reported in Table 2.2.4. Vehicle occupancy is obtained by dividing the sum of vehicle driver and vehicle passenger trips by the number of vehicle driver trips. The regional vehicle occupancy in the Bay Area in 1990 is 1.258 persons per vehicle. This ranges from a low of 1.099 persons per vehicle

for home-based work trips to a high of 2.521 persons per vehicle for home-based school trips.

These vehicle occupancy calculations are basically rough estimates, given that any particular vehicle trip may contain multiple passengers (driver, passengers) with different trip purposes. The driver may be escorting his or her child from home-to-school. This is a “home-based shop (other)” trip for the vehicle driver (the parent) yet is classified as a “home-based school” trip for the child. Another example is a parent escorting a child to school and then continuing on to work. In the MTC linked-trip procedures, the parent’s trip will be considered a home-to-work trip with a vehicle occupancy of two persons.



**Table 2.2.1**  
**1990 Regional Weekday Trips by Purpose and Detailed Travel Mode**

Detailed Mode	H. B. Work		H. B. Shop		H. B. Soc/Rec		H. B. School		Non-Home-Based		Total Purposes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1. Auto Driver	3,414,390	76.4%	2,915,749	68.6%	1,000,274	53.8%	337,500	20.2%	3,023,485	64.1%	10,691,398	63.0%
2. Auto Passenger	319,573	7.1%	732,164	17.2%	508,111	27.3%	525,436	31.4%	661,418	14.0%	2,746,702	16.2%
3. Truck Driver	33,340	0.7%	14,751	0.3%	7,204	0.4%	3,325	0.2%	68,114	1.4%	126,734	0.7%
4. Truck Passenger	7,413	0.2%	1,956	0.0%	2,137	0.1%	1,957	0.1%	8,704	0.2%	22,167	0.1%
5. Van Driver	11,360	0.3%	12,061	0.3%	2,030	0.1%	3,206	0.2%	22,075	0.5%	50,732	0.3%
6. Van Passenger	15,198	0.3%	5,973	0.1%	4,330	0.2%	5,261	0.3%	13,120	0.3%	43,882	0.3%
7. Taxi, Limo Pssgr.	3,559	0.1%	4,738	0.1%	2,932	0.2%	0	0.0%	2,912	0.1%	14,141	0.1%
8. Public Bus Pssgr.	240,781	5.4%	135,433	3.2%	41,881	2.3%	156,793	9.4%	116,597	2.5%	691,485	4.1%
9. School Bus Pssgr.	1,357	0.0%	1,952	0.0%	1,944	0.1%	168,581	10.1%	25,015	0.5%	198,849	1.2%
10. Cable Car Pssgr.	1,520	0.0%	917	0.0%	0	0.0%	0	0.0%	1,659	0.0%	4,096	0.0%
11. Streetcar Pssgr.	21,396	0.5%	8,585	0.2%	1,951	0.1%	5,057	0.3%	12,009	0.3%	48,998	0.3%
12. Shuttle Bus Pssgr.	8,734	0.2%	2,777	0.1%	836	0.0%	2,958	0.2%	6,535	0.1%	21,840	0.1%
13. Dial-a-Ride Pssgr.	570	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	570	0.0%
14. BART Passenger	155,093	3.5%	21,838	0.5%	14,404	0.8%	22,630	1.4%	38,395	0.8%	252,360	1.5%
15. CalTrain Pssgr.	13,752	0.3%	703	0.0%	655	0.0%	400	0.0%	1,651	0.0%	17,161	0.1%
16. AMTRAK Pssgr.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
17. Airplane Pssgr.	0	0.0%	0	0.0%	0	0.0%	0	0.0%	371	0.0%	371	0.0%
18. Ferry Passenger	6,222	0.1%	395	0.0%	375	0.0%	210	0.0%	2,201	0.0%	9,403	0.1%
19. Motorcycle Driver	18,407	0.4%	7,200	0.2%	6,547	0.4%	6,229	0.4%	7,087	0.2%	45,470	0.3%
20. Motorcycle Pssgr.	2,145	0.0%	1,476	0.0%	1,081	0.1%	173	0.0%	3,303	0.1%	8,178	0.0%
21. Moped	2,683	0.1%	1,983	0.0%	1,499	0.1%	1,745	0.1%	1,260	0.0%	9,170	0.1%
22. Bicycle	57,091	1.3%	31,594	0.7%	55,395	3.0%	69,750	4.2%	40,147	0.9%	253,977	1.5%
23. Walk	136,018	3.0%	339,729	8.0%	200,471	10.8%	358,918	21.5%	644,931	13.7%	1,680,067	9.9%
24. Other	1,380	0.0%	5,802	0.1%	4,377	0.2%	1,249	0.1%	16,175	0.3%	28,983	0.2%
TOTAL	4,471,982	100.0%	4,247,776	100.0%	1,858,434	100.0%	1,671,378	100.0%	4,717,164	100.0%	16,966,734	100.0%

General Mode	H. B. Work		H. B. Shop		H. B. Soc/Rec		H. B. School		Non-Home-Based		Total Purposes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Vehicle Driver	3,477,497	77.8%	2,949,761	69.4%	1,016,055	54.7%	350,260	21.0%	3,120,761	66.2%	10,914,334	64.3%
Vehicle Passenger	344,329	7.7%	741,569	17.5%	515,659	27.7%	532,827	31.9%	686,545	14.6%	2,820,929	16.6%
Transit Passenger	449,425	10.0%	172,600	4.1%	62,046	3.3%	188,048	11.3%	204,062	4.3%	1,076,181	6.3%
School Bus Passenger	0	0.0%	0	0.0%	0	0.0%	168,581	10.1%	0	0.0%	168,581	1.0%
Bicycle	57,091	1.3%	31,594	0.7%	55,395	3.0%	69,750	4.2%	40,147	0.9%	253,977	1.5%
Walk	136,018	3.0%	339,729	8.0%	200,471	10.8%	358,918	21.5%	644,931	13.7%	1,680,067	9.9%
Other	7,622	0.2%	12,523	0.3%	8,808	0.5%	2,994	0.2%	20,718	0.4%	52,665	0.3%
TOTAL	4,471,982	100.0%	4,247,776	100.0%	1,858,434	100.0%	1,671,378	100.0%	4,717,164	100.0%	16,966,734	100.0%

Table 2.2.2

## 1990 Regional Weekday Trips by Trip Purpose at Origin &amp; Destination

Origin Purpose	Destination Purpose						TOTAL
	Home	Work	Work-Related	Shop (Other)	Social/ Recreation	School	
Home	15,075	2,245,061	155,919	2,002,599	876,901	896,835	6,192,390
	0.2%	36.3%	2.5%	32.3%	14.2%	14.5%	100.0%
	0.2%	70.5%	19.5%	51.3%	45.2%	84.9%	36.5%
Work	1,893,322	186,034	227,125	429,280	398,307	21,276	3,155,344
	60.0%	5.9%	7.2%	13.6%	12.6%	0.7%	100.0%
	31.1%	5.8%	28.5%	11.0%	20.5%	2.0%	18.6%
Work-Related	177,681	160,021	342,139	62,282	49,523	2,938	794,584
	22.4%	20.1%	43.1%	7.8%	6.2%	0.4%	100.0%
	2.9%	5.0%	42.9%	1.6%	2.6%	0.3%	4.7%
Shop (Other)	2,245,177	235,352	32,226	1,013,279	298,027	41,038	3,865,099
	58.1%	6.1%	0.8%	26.2%	7.7%	1.1%	100.0%
	36.9%	7.4%	4.0%	26.0%	15.4%	3.9%	22.8%
Social/ Recreation	981,534	325,090	35,941	283,470	234,790	45,374	1,906,199
	51.5%	17.1%	1.9%	14.9%	12.3%	2.4%	100.0%
	16.1%	10.2%	4.5%	7.3%	12.1%	4.3%	11.2%
School	774,542	34,688	4,204	109,072	82,275	48,337	1,053,118
	73.5%	3.3%	0.4%	10.4%	7.8%	4.6%	100.0%
	12.7%	1.1%	0.5%	2.8%	4.2%	4.6%	6.2%
Total Means	6,087,331	3,186,246	797,554	3,899,982	1,939,823	1,055,798	16,966,734
	35.9%	18.8%	4.7%	23.0%	11.4%	6.2%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Upper entry is number of trips.

Middle entry is row percent.

Lower entry is column percent.



**Table 2.2.3****1990 Regional Weekday Trips by Trip Purpose and Travel Mode**

	Home-Based Work	Home-Based Shop	Home-Based Social/Rec	Home-Based School	Non-Home Based	Total Purposes
	3,477,497	2,949,761	1,016,055	350,260	3,120,761	10,914,334
Vehicle	31.9%	27.0%	9.3%	3.2%	28.6%	100.0%
Driver	77.8%	69.4%	54.7%	21.0%	66.2%	64.3%
	344,329	741,569	515,659	532,827	686,545	2,820,929
Vehicle	12.2%	26.3%	18.3%	18.9%	24.3%	100.0%
Passenger	7.7%	17.5%	27.7%	31.9%	14.6%	16.6%
	449,425	172,600	62,046	188,048	204,062	1,076,181
Transit	41.8%	16.0%	5.8%	17.5%	19.0%	100.0%
Passenger	10.0%	4.1%	3.3%	11.3%	4.3%	6.3%
	0	0	0	168,581	0	168,581
School Bus	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Passenger	0.0%	0.0%	0.0%	10.1%	0.0%	1.0%
	57,091	31,594	55,395	69,750	40,147	253,977
Bicycle	22.5%	12.4%	21.8%	27.5%	15.8%	100.0%
	1.3%	0.7%	3.0%	4.2%	0.9%	1.5%
	136,018	339,729	200,471	358,918	644,931	1,680,067
Walk	8.1%	20.2%	11.9%	21.4%	38.4%	100.0%
	3.0%	8.0%	10.8%	21.5%	13.7%	9.9%
	7,622	12,523	8,808	2,994	20,718	52,665
Other	14.5%	23.8%	16.7%	5.7%	39.3%	100.0%
	0.2%	0.3%	0.5%	0.2%	0.4%	0.3%
Total	4,471,982	4,247,776	1,858,434	1,671,378	4,717,164	16,966,734
	26.4%	25.0%	11.0%	9.9%	27.8%	100.0%
Means	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Upper entry is number of trips.

Middle entry is row percent.

Lower entry is column percent.

**Table 2.2.4****1990 Regional Weekday Vehicle Occupancy by Trip Purpose**

Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
Vehicle Driver	3,477,497	2,949,761	1,016,055	350,260	3,120,761	10,914,334
Vehicle Passenger	344,329	741,569	515,659	532,827	686,545	2,820,929
In-Vehicle Person	3,821,826	3,691,330	1,531,714	883,087	3,807,306	13,735,263
Vehicle Occupancy	1.099	1.251	1.508	2.521	1.220	1.258



### 2.3 Distribution of Weekday Trips by Time of Day

This section reports on the regional expanded, weekday travel by time of day. Appendix 2.3 contains 25 tables with detailed data related to travel by time of day.

Time of day travel is analyzed using three methods: 1) analysis of trips by reported time of departure (time at trip origin); 2) analysis of trips by reported time of arrival (time at trip destination); and 3) analysis of trips by what is called “trips in motion.” The first two methods are self-explanatory. The “trips in motion” computer program assigns each trip to a time period or time periods based on time at trip origin and time at trip destination. For example, if a person reported a home-to-work trip departing home at 7:55 AM and arriving at work at 8:25 AM, then that trip would be allocated to three AM peak hour time periods (based on a 15 minute analysis): the 7:45-to-8:45 AM peak hour; the 8:00-to-9:00 AM peak hour; and the 8:15-to-9:15 AM peak hour. The number of “trips in motion” reflects the number of total trips (specified by trip purpose, travel mode, etc.) that occur, or are “in motion” anytime during the specified time period.

Distribution of trips by time of day based on time at trip origin are summarized in Table 2.3.1. Trips by time of day based on time at trip destination are shown in Table 2.3.2. These two tables summarize travel by AM and PM peak hour and peak periods. Percentages show the AM and PM peak hour trips, stratified by trip purpose and travel mode, as a share of daily totals. Detailed appendix tables based on time at trip origin and trip destination are included as Tables 2.3.1A through 2.3.12A.

These summaries show that 8.3 percent of all regional daily trips start in the AM peak hour (7:00-8:00 AM) and 9.2 percent of all regional trips start in the PM peak hour (4:30-5:30 PM) (Table 2.3.1). Trips made by transit passengers are more peak hour oriented than total trips, with 14.8 percent of all daily transit passenger trips start in the AM peak hour (7:00-8:00 AM) and 11.9 percent start in the PM peak hour (4:30-5:30 PM). Trips made by vehicle drivers (the mode “vehicles” in Tables 2.3.1 and 2.3.2) are more spread out than for transit passengers, with 7.6 percent starting in the AM peak hour and 9.7 percent in the PM peak hour. (The mode “commuters” in Tables 2.3.1 and 2.3.2 includes vehicle drivers, vehicle passengers, and transit passengers.)

**These tables are also useful in showing the peaking patterns based on trip purpose** (home-based work, home-based school, total home-based, non-home-based), and by

time period (AM and PM peak hour, peak two-hour period, and peak three-hour period). The reader can use these tables (and the appendix tables) to understand the trip purpose share for peak hour or peak periods to evaluate the concentration of work trips versus non-work trips by time of day.

Data from the Table 2.3.1 and the related appendix tables can be used by transportation planners to develop sets of peaking factors to apply to daily trip tables by trip purpose and travel mode for use in travel demand model forecasting systems. MTC typically uses the data from time-at-trip-origin for estimating these peaking factors, though the analyst may choose to experiment with averages based on time-at-trip-origin and time-at-trip-destination factors.

AM peak hour and PM peak hour factors based on regional trips-in-motion analysis are shown in Table 2.3.3. Appendix tables 2.3.13A through 2.3.25A provide detailed information on regional trips-in-motion by trip purpose and travel mode. The trips-in-motion summary table confirms the information in the time-at-trip-origin analysis, namely, that transit trips are more peak hour oriented (peaked) than vehicle driver trips. Again, the mode "commuter-person" is a sum of vehicle driver, vehicle passenger, and transit passenger trips.

The trips-in-motion analysis shows that 63.6 percent of all vehicle trips-in-motion during the AM peak hour (7:30-8:30 AM) are made by commuters going from home-to-work. This table also shows that just 43.8 percent of all vehicle trips-in-motion during the PM peak hour (4:45-5:45 PM) are made by commuters going from work-to-home. This indicates that the PM peak hour has a significantly larger share of non-work trips occurring than during the AM peak hour. This holds true except for transit trips-in-motion, where the majority of transit trips occurring in both the AM and PM peak hours are either from home-to-work or work-to-home.

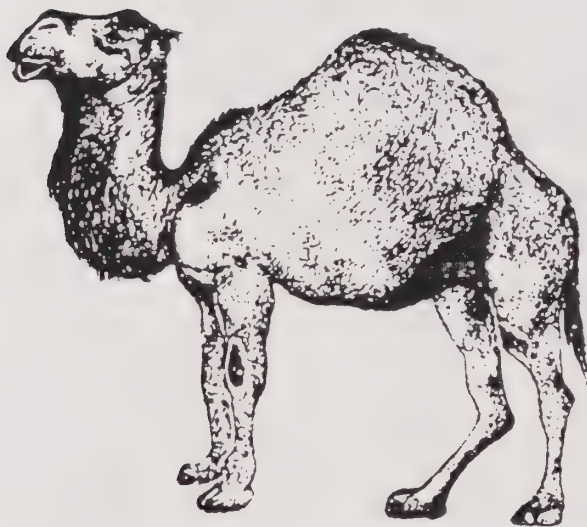
(The reader should note that trips-in-motion analyses are only provided for hour-long periods. Multi-hour peak period trips-in-motion could be developed, but the reader is encourage to use the time-at-trip-origin and time-at-trip-destination data for multi-hour peak period analyses.)

The trips-in-motion analyses by trip purposes are charted in Figures 2.3.1 through 2.3.7. Figure 2.3.1 shows the composite time-of-day analysis with the five general trip purposes stacked one on top of each other. **This useful graphic presents information related to the bi-modal distribution of home-based work trips as well as the predominance of non-work trips during midday and PM peak periods.** (This graphic



is based on data contained in appendix Table 2.3.25A).

Figures 2.3.2 through 2.3.6 graph the time-of-day distribution of trips separately by trip purpose. The reader can note that the bi-modal distributions of home-based work trips and home-based school trips are similar to the two humps of a bactrian camel (see below). The uni-modal distributions of home-based shop (other), home-based social/recreation, and non-home-based trips are similar (in a fashion) to the one hump of the dromedary camel.



Arabian (Dromedary)



Bactrian

For work trips (Figure 2.3.2), the AM peak hour “hump” occurs between 7:30 and 8:30 AM; the PM peak hour “hump,” between 4:45 and 5:45 PM (Figure 2.3.2). For home-based school trips (Figure 2.3.5), the AM peak hour “hump” is also the 7:30 to 8:30 hour, whereas the PM peak hour for school trips occurs between 2:30 and 3:30 PM, over two hours earlier than the PM peak commute work-trip rush hour.

Home-based shop (other) trips (Figure 2.3.3) show a complicated peaking pattern, with minor AM peak hour “humps” at 7:45 to 8:45 AM; a less pronounced midday “hump” at 11:30 AM to 12:30 PM; and the largest “hump” at 2:45 to 3:45 in the afternoon. This is basically a “uni-modal” distribution with minor humps during the AM peak hour and the midday (e.g., lunch hour shopping trips).

**Home-based social/recreation trips (Figure 2.3.4) show a very pronounced and peaked uni-modal distribution, peaking at 6:30 to 7:30 PM in the evening. These are primarily trips from dinner (eat meal)-to-home or from visiting friends-to-home.**

Non-home-based trips (Figure 2.3.5) also show a very pronounced and peaked uni-modal distribution by time-of-day, peaking during the 11:45 AM to 12:45 PM noon hour. These midday non-home-based trips are primarily the “lunch bunch” type of trips, with persons going from work (or school) to lunch and back to work (or school) again at the end of their regular lunch period. There is also a minor “hump” of non-home-based trips occurring at 4:30 to 5:30 in the afternoon. This afternoon surge of non-home-based trips are the typical trips made by a commuter on the way home from work, stopping off to do grocery shopping, picking up clothes at the dry cleaners, picking up a six-pack at the liquor store, etc.

The cumulative frequency distribution of travel by trip purpose by time-of-day is graphed in Figure 2.3.7. This graphic can be deceiving since the size of the travel market (e.g., 3:00-4:00 AM) isn’t taken into account in this depiction of travel. It is, however, visually quite interesting, and may help the reader in understanding “who is traveling for what purpose” for any particular hour of the day.



**Table 2.3.1**  
**Distribution of 1990 Regional Weekday Trips by Time of Day — Time at Trip Origin**  
**Comparison by Mode & Trip Purpose**

Time at Trip Origin	Home-Based Work				Home-Based School				Total Home-Based				Non-Home Based		TOTAL TRIPS	
	From Home Number	Pct.	To Home Number	Pct.	From Home Number	Pct.	To Home Number	Pct.	From Home Number	Pct.	To Home Number	Pct.	Number	Pct.	Number	Pct.
<u>7:00 - 8:00 AM</u>																
All Modes	711,597	29.7%	14,573	0.7%	347,953	38.8%	2,123	0.3%	1,239,159	20.1%	56,227	0.9%	108,223	2.3%	1,403,609	8.3%
Commuters	685,110	29.9%	14,131	0.7%	267,748	39.1%	2,123	0.4%	1,111,719	20.1%	49,702	0.9%	92,527	2.3%	1,253,950	8.4%
Transit	85,331	35.6%	760	0.4%	45,813	49.5%	0	0.0%	144,970	32.4%	1,192	0.3%	10,194	5.7%	154,745	14.8%
Vehicles	545,644	29.1%	12,452	0.8%	61,671	32.4%	1,400	0.9%	715,762	18.3%	45,598	1.2%	66,255	2.1%	823,620	7.6%
<u>6:30 - 8:30 AM</u>																
All Modes	1,267,478	52.8%	17,578	0.9%	645,958	72.0%	3,760	0.5%	2,279,744	36.9%	133,804	2.2%	212,440	4.5%	2,625,987	15.5%
Commuters	1,220,779	53.2%	23,329	1.2%	482,819	70.5%	3,581	0.6%	2,026,174	36.7%	114,021	2.1%	180,656	4.5%	2,320,853	15.5%
Transit	143,221	59.7%	920	0.4%	72,239	78.0%	0	0.0%	238,430	53.3%	1,609	0.4%	18,342	10.2%	256,770	24.6%
Vehicles	986,572	52.6%	20,605	1.3%	90,820	47.8%	2,858	1.8%	1,299,428	33.2%	104,872	2.7%	127,240	4.1%	1,527,544	14.0%
<u>6:00 - 9:00 AM</u>																
All Modes	1,618,332	67.4%	27,409	1.3%	733,334	81.8%	5,573	0.7%	2,845,229	46.1%	195,912	3.2%	325,277	6.9%	3,366,417	19.9%
Commuters	1,557,469	67.9%	33,160	1.7%	548,110	80.0%	4,967	0.9%	2,541,145	46.0%	165,990	3.1%	272,642	6.8%	2,979,779	19.9%
Transit	179,140	74.7%	920	0.4%	77,823	84.0%	0	0.0%	289,599	64.7%	1,609	0.4%	25,510	14.2%	313,388	30.0%
Vehicles	1,259,313	67.2%	29,544	1.9%	107,719	56.6%	3,994	2.5%	1,674,287	42.8%	152,076	3.9%	197,114	6.3%	2,019,481	18.5%
<u>4:30 - 5:30 PM</u>																
All Modes	34,060	1.4%	577,643	28.0%	5,817	0.6%	43,682	5.6%	230,674	3.7%	952,737	15.7%	379,523	8.0%	1,562,936	9.2%
Commuters	31,432	1.4%	554,962	28.2%	3,925	0.6%	37,793	6.8%	200,069	3.6%	890,889	16.4%	341,325	8.5%	1,432,284	9.6%
Transit	934	0.4%	77,910	37.5%	361	0.4%	8,384	8.8%	6,395	1.4%	98,249	23.5%	19,824	11.1%	124,467	11.9%
Vehicles	27,341	1.5%	434,732	27.3%	2,813	1.5%	9,680	6.1%	146,642	3.8%	652,283	16.9%	256,039	8.2%	1,054,964	9.7%
<u>4:00 - 6:00 PM</u>																
All Modes	69,608	2.9%	954,318	46.3%	14,214	1.6%	91,890	11.9%	490,866	8.0%	1,669,777	27.6%	683,833	14.5%	2,844,476	16.8%
Commuters	64,075	2.8%	916,579	46.6%	11,830	1.7%	80,660	14.6%	431,842	7.8%	1,560,668	28.8%	611,286	15.2%	2,603,795	17.4%
Transit	2,305	1.0%	123,384	59.4%	361	0.4%	17,387	18.2%	12,333	2.8%	164,093	39.2%	36,456	20.4%	212,883	20.4%
Vehicles	54,940	2.9%	721,238	45.2%	9,396	4.9%	20,039	12.5%	310,938	8.0%	1,150,167	29.7%	464,856	14.9%	1,925,957	17.7%
<u>3:30 - 6:30 PM</u>																
All Modes	95,523	4.0%	1,249,918	60.6%	25,455	2.8%	154,268	19.9%	725,427	11.8%	2,316,330	38.3%	1,000,769	21.2%	4,042,525	23.9%
Commuters	88,010	3.8%	1,199,661	61.0%	21,963	3.2%	125,132	22.6%	638,027	11.5%	2,149,897	39.7%	890,194	22.2%	3,678,117	24.6%
Transit	2,709	1.1%	150,544	72.5%	361	0.4%	24,601	25.8%	15,883	3.6%	207,428	49.5%	52,690	29.4%	275,999	26.4%
Vehicles	76,202	4.1%	952,940	59.8%	17,666	9.3%	29,830	18.7%	464,752	11.9%	1,575,935	40.8%	675,093	21.6%	2,715,775	24.9%
<u>DAILY</u>																
All Modes	2,399,792	100%	2,061,463	100%	896,614	100%	774,127	100%	6,173,580	100%	6,055,287	100%	4,715,609	100%	16,944,470	100%
Commuters	2,293,308	100%	1,967,478	100%	685,054	100%	554,026	100%	5,526,606	100%	5,421,786	100%	4,010,318	100%	14,958,701	100%
Transit	239,723	100%	207,689	100%	92,631	100%	95,418	100%	447,334	100%	418,877	100%	179,047	100%	1,045,258	100%
Vehicles	1,873,946	100%	1,594,858	100%	190,153	100%	159,934	100%	3,910,343	100%	3,867,085	100%	3,119,711	100%	10,897,133	100%

**Table 2.3.2**  
**Distribution of 1990 Regional Weekday Trips by Time of Day — Time at Trip Destination**  
**Comparison by Mode & Trip Purpose**

Time at Trip Destination	Home-Based Work		Home-Based School		Total Home-Based		Non-Home Based		TOTAL TRIPS	
	From Home Number	To Home Pct.	From Home Number	To Home Pct.	From Home Number	To Home Pct.	Number	Pct.	Number	Pct.
<b>7:30 - 8:30 AM</b>										
All Modes	746,510	31.1%	12,353	0.6%	501,385	55.9%	3,169	0.4%	1,467,753	23.8%
Commuters	718,599	31.3%	11,450	0.6%	361,939	52.8%	2,990	0.5%	1,271,927	23.0%
Transit	88,745	37.0%	189	0.1%	49,688	53.6%	0	0.0%	148,763	33.3%
Vehicles	572,908	30.6%	10,621	0.7%	67,415	35.5%	2,103	1.3%	776,354	19.9%
<b>7:00 - 9:00 AM</b>										
All Modes	1,290,290	53.8%	24,868	1.2%	690,756	77.0%	4,596	0.6%	2,381,381	38.6%
Commuters	1,241,488	54.1%	23,685	1.2%	511,148	74.6%	4,417	0.8%	2,103,954	38.1%
Transit	153,595	64.1%	804	0.4%	69,336	74.9%	0	0.0%	244,297	54.6%
Vehicles	991,544	52.9%	21,281	1.3%	96,010	50.5%	3,530	2.2%	1,332,227	34.1%
<b>6:30 - 9:30 AM</b>										
All Modes	1,653,193	68.9%	37,453	1.8%	749,414	83.6%	6,306	0.8%	2,945,605	47.7%
Commuters	1,587,713	69.2%	35,573	1.8%	560,730	81.9%	5,813	1.0%	2,627,034	47.5%
Transit	184,770	77.1%	1,441	0.7%	76,408	82.5%	0	0.0%	288,561	64.5%
Vehicles	1,280,816	68.3%	31,389	2.0%	113,015	59.4%	4,676	2.9%	1,738,673	44.5%
<b>5:00 - 6:00 PM</b>										
All Modes	33,167	1.4%	540,390	26.2%	7,169	0.8%	47,153	6.1%	246,797	4.0%
Commuters	29,723	1.3%	515,089	26.2%	5,044	0.7%	42,269	7.6%	219,506	4.0%
Transit	2,307	1.0%	61,086	29.4%	361	0.4%	12,388	13.0%	5,093	1.1%
Vehicles	25,275	1.3%	415,643	26.1%	3,550	1.9%	10,321	6.5%	156,320	4.0%
<b>4:30 - 6:30 PM</b>										
All Modes	69,650	2.9%	950,194	46.1%	17,643	2.0%	93,455	12.1%	512,783	8.3%
Commuters	64,802	2.8%	910,235	46.3%	15,335	2.2%	81,511	14.7%	457,636	8.3%
Transit	2,794	1.2%	115,137	55.4%	1,252	1.4%	19,275	20.2%	12,901	2.9%
Vehicles	53,658	2.9%	721,524	45.2%	11,950	6.3%	19,487	12.2%	325,657	8.3%
<b>4:00 - 7:00 PM</b>										
All Modes	95,597	4.0%	1,223,541	59.4%	26,682	3.0%	146,056	18.9%	744,727	12.1%
Commuters	88,330	3.9%	1,172,394	59.6%	23,740	3.5%	127,060	22.9%	662,948	12.0%
Transit	3,420	1.4%	145,060	69.8%	1,610	1.7%	31,895	33.4%	16,985	3.8%
Vehicles	75,006	4.0%	933,184	58.5%	18,934	10.0%	28,142	17.6%	475,780	12.2%
<b>DAILY</b>										
All Modes	2,399,792	100%	2,061,463	100%	896,614	100%	774,127	100%	6,173,580	100%
Commuters	2,293,308	100%	1,967,478	100%	685,054	100%	554,026	100%	5,526,606	100%
Transit	239,723	100%	207,689	100%	92,631	100%	95,418	100%	447,334	100%
Vehicles	1,873,946	100%	1,594,858	100%	190,153	100%	159,934	100%	3,910,343	100%

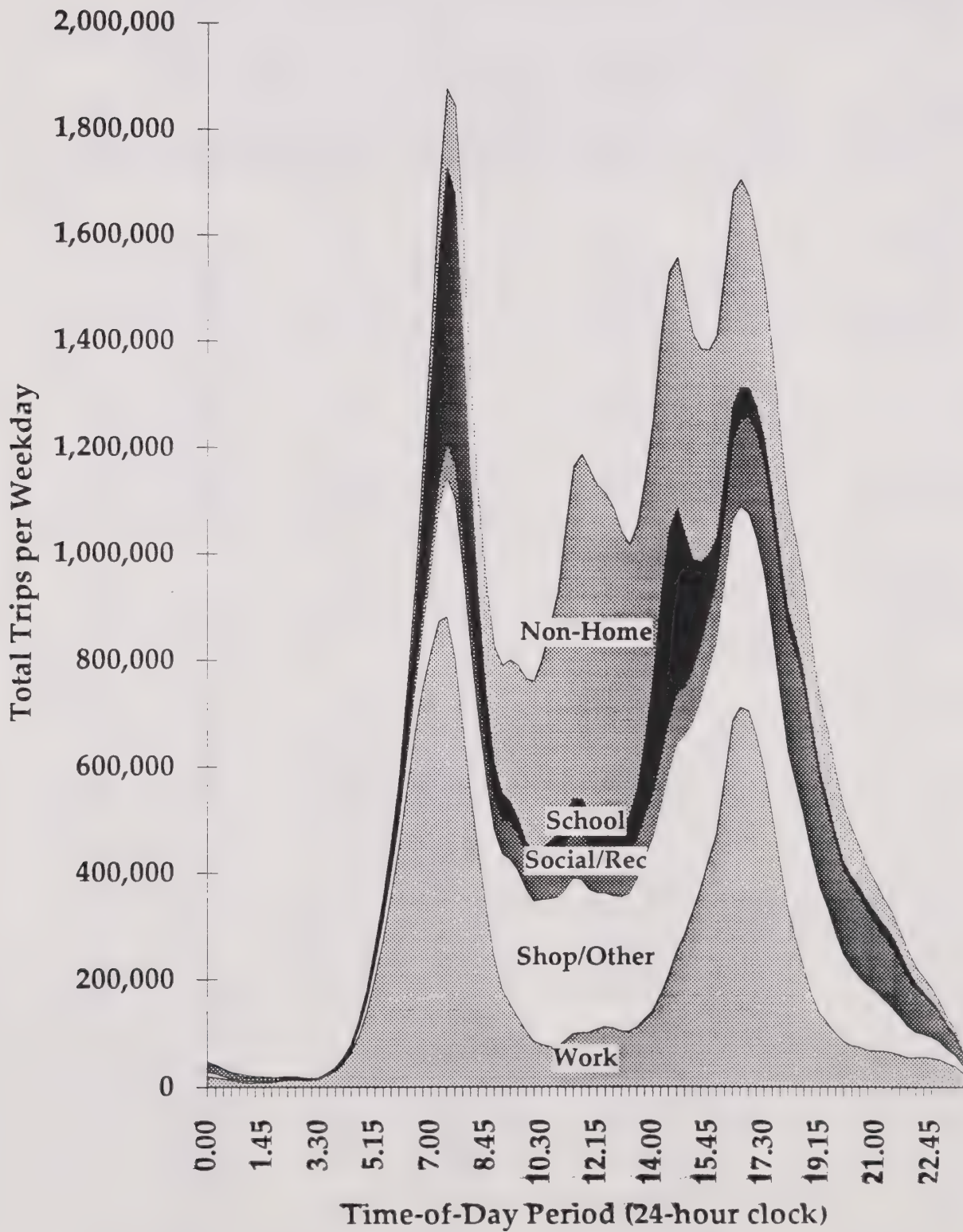


**Table 2.3.3**

**Distribution of Regional 1990 Weekday Trips-in-Motion by Time-of-Day  
Percent Peak Hour of Daily & Percent Work Trips of Peak Hour**

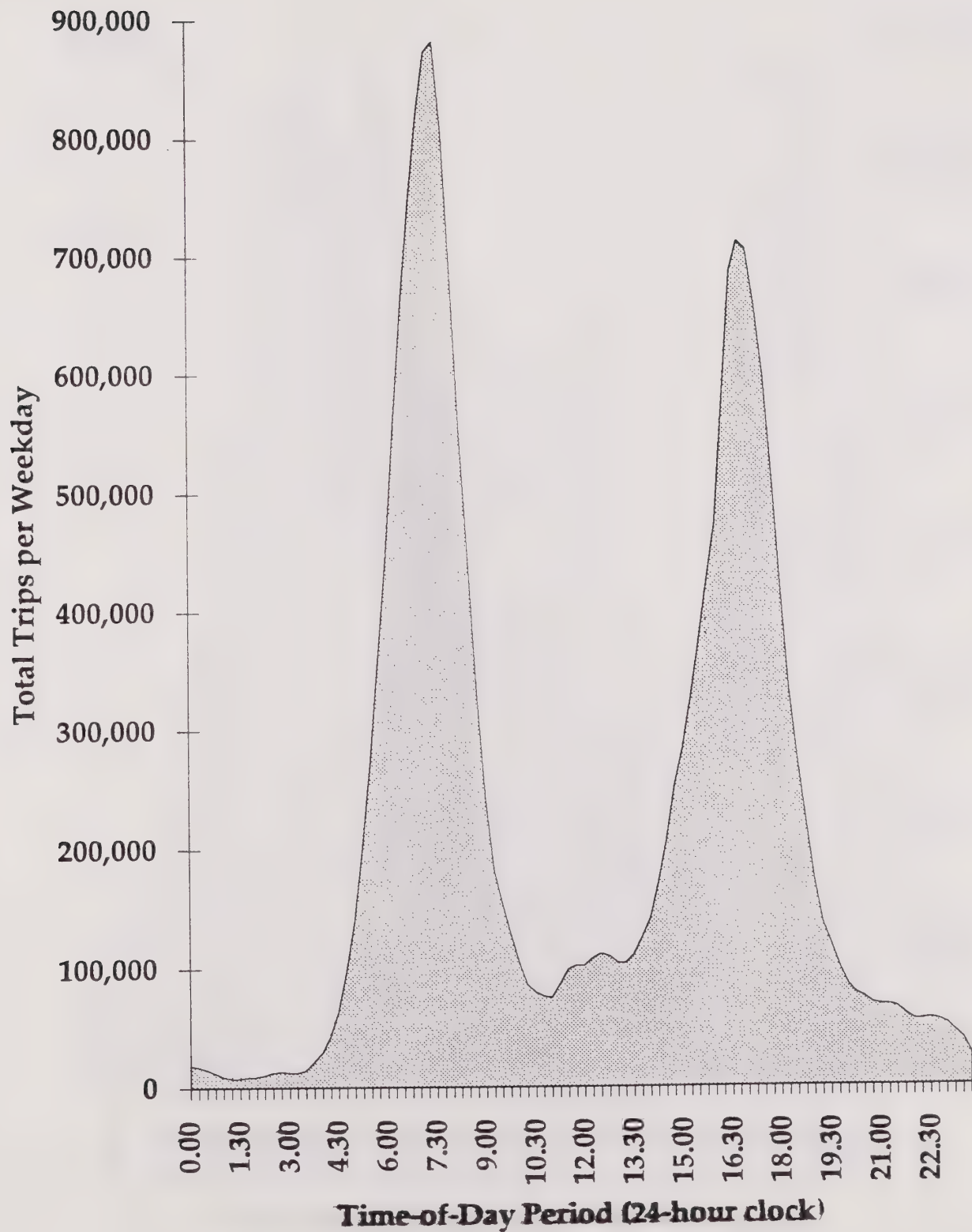
Time-of-Day and Mode	<u>Home-Based Work</u>				<u>Total Trip</u>	
	<u>From Home</u>		<u>To Home</u>		<u>Purposes</u>	
	Trips (% of Pk Hr)	% of Daily	Trips (% of Pk Hr)	% of Daily	Trips (% of Pk Hr)	% of Daily
<u>7:30 - 8:30 AM</u>						
All Modes	866,268 (46.2%)	36.3%	15,057 (0.8%)	0.7%	1,876,238 (100.0%)	11.1%
Commuter-Person	835,838 (50.7%)	36.6%	13,963 (0.8%)	0.7%	1,647,961 (100.0%)	11.1%
Transit	120,928 (55.4%)	51.0%	837 (0.4%)	0.4%	218,181 (100.0%)	21.3%
Vehicle Driver	655,805 (63.6%)	35.1%	12,254 (1.2%)	0.8%	1,030,719 (100.0%)	9.5%
<u>4:45 - 5:45 PM</u>						
All Modes	36,233 (2.1%)	1.5%	676,482 (39.7%)	32.9%	1,705,997 (100.0%)	10.1%
Commuter-Person	33,079 (2.1%)	1.4%	652,283 (41.4%)	33.3%	1,577,347 (100.0%)	10.6%
Transit	1,890 (1.1%)	0.8%	103,031 (60.0%)	51.2%	171,663 (100.0%)	16.8%
Vehicle Driver	28,445 (2.5%)	1.5%	499,617 (43.8%)	31.3%	1,141,839 (100.0%)	10.5%
<u>DAILY</u>						
All Modes	2,389,684 (14.2%)	100.0%	2,054,160 (12.2%)	100.0%	16,859,552 (100.0%)	100.0%
Commuter-Person	2,283,413 (15.3%)	100.0%	1,960,527 (13.2%)	100.0%	14,881,664 (100.0%)	100.0%
Transit	237,277 (23.2%)	100.0%	201,137 (19.7%)	100.0%	1,023,016 (100.0%)	100.0%
Vehicle Driver	1,868,355 (17.2%)	100.0%	1,594,344 (14.7%)	100.0%	10,859,596 (100.0%)	100.0%

**Figure 2.3.1**  
**1990 Weekday Trips in Motion by Time-of-Day by Trip Purpose**

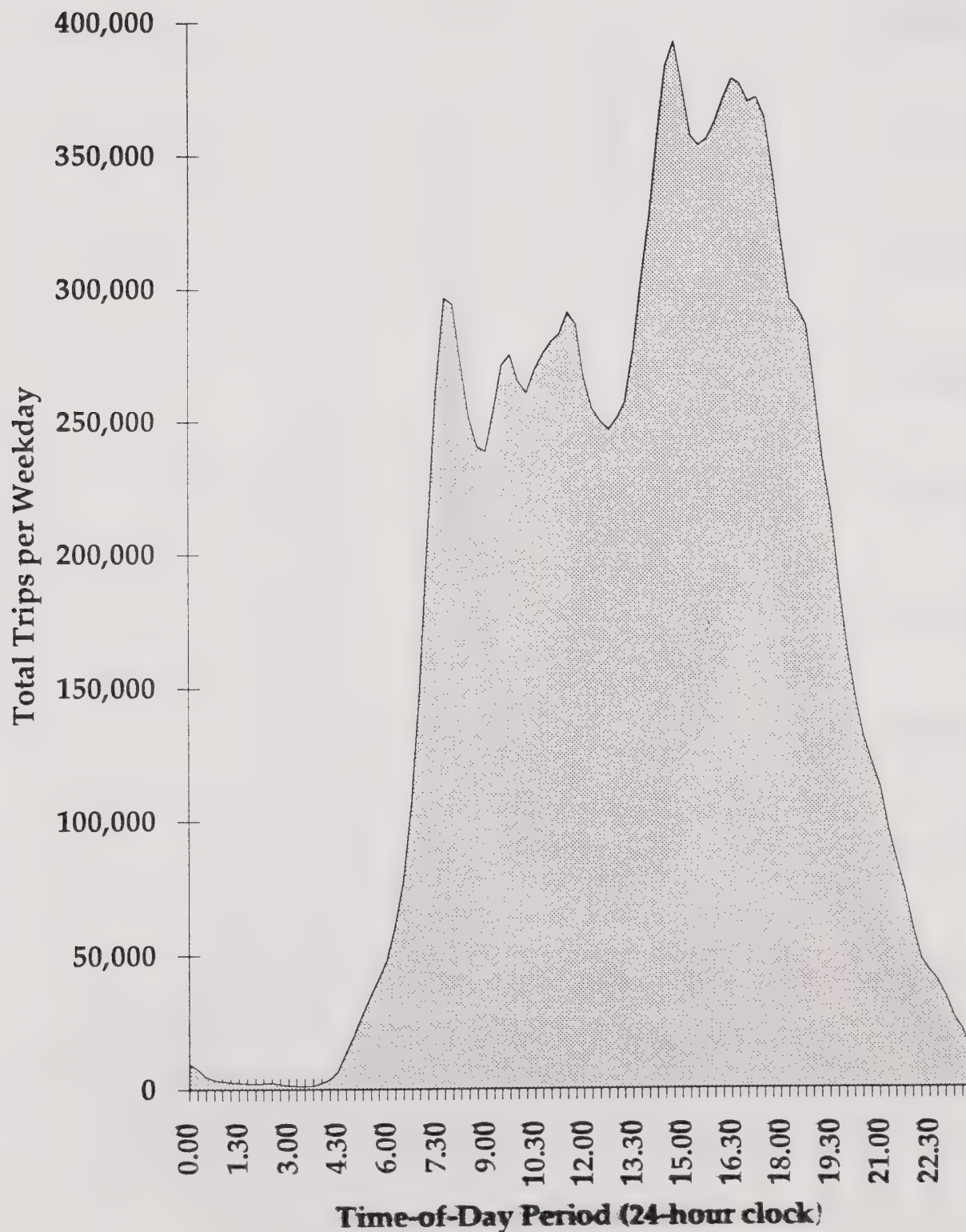




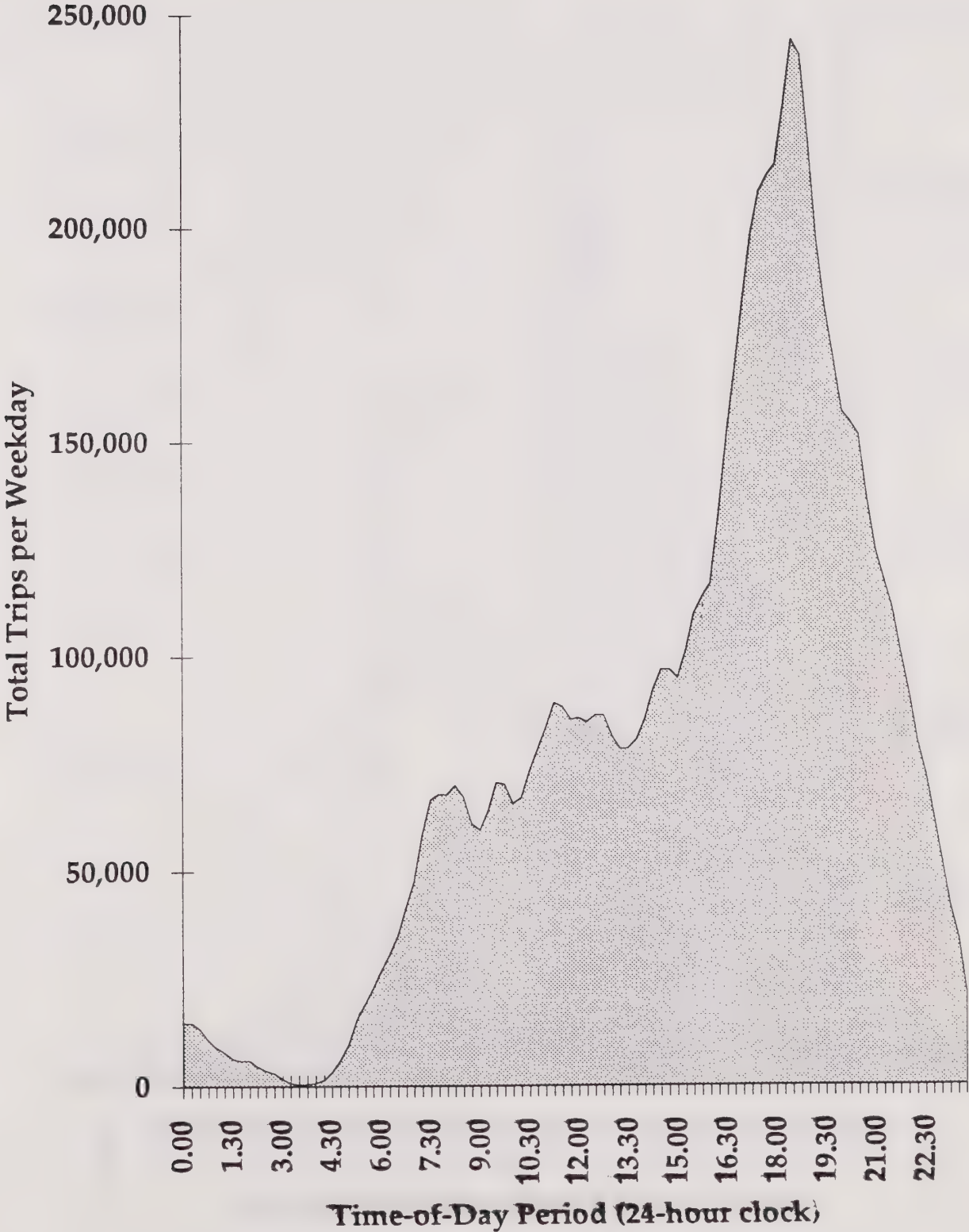
**Figure 2.3.2**  
**1990 Weekday Home-Based Work Trips in Motion by Time-of-Day**



**Figure 2.3.3**  
**1990 Weekday Home-Based Shop (Other) Trips in Motion by Time-of-Day**

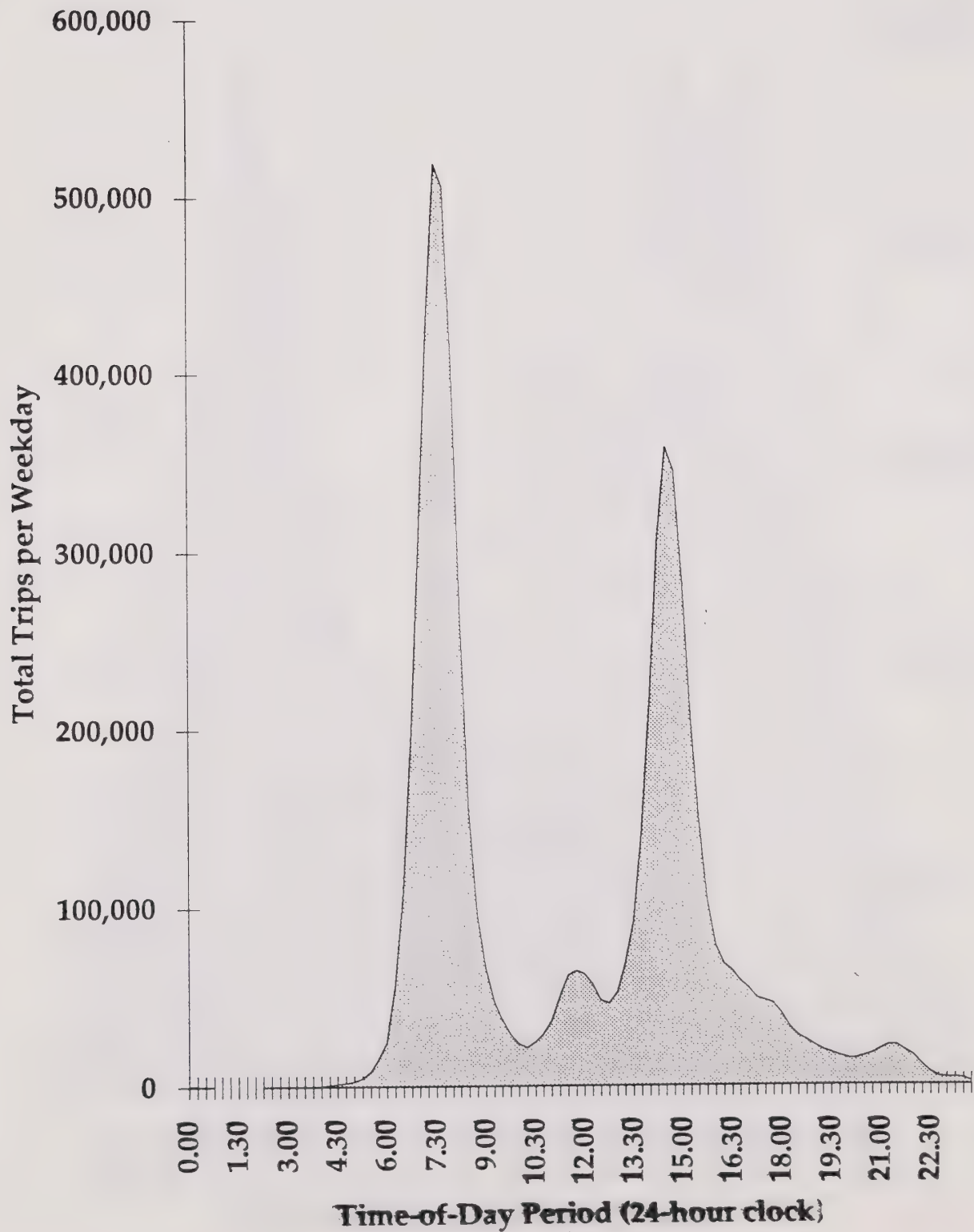


**Figure 2.3.4**  
**1990 Weekday Home-Based Social/Recreation Trips in Motion by Time-of-Day**





**Figure 2.3.5**  
**1990 Weekday Home-Based School Trips in Motion by Time-of-Day**



**Figure 2.3.6**  
**1990 Weekday Non-Home-Based Trips in Motion by Time-of-Day**

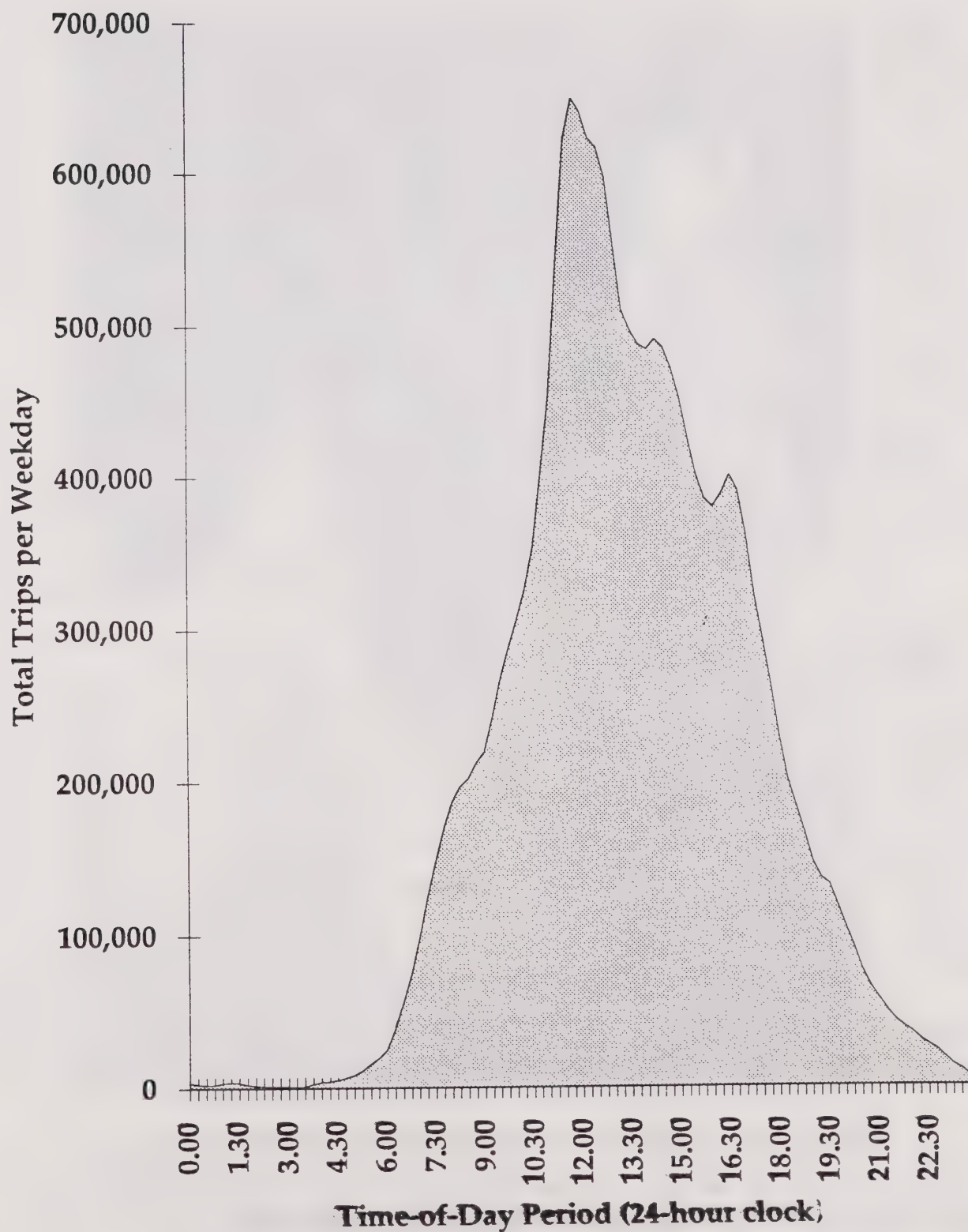
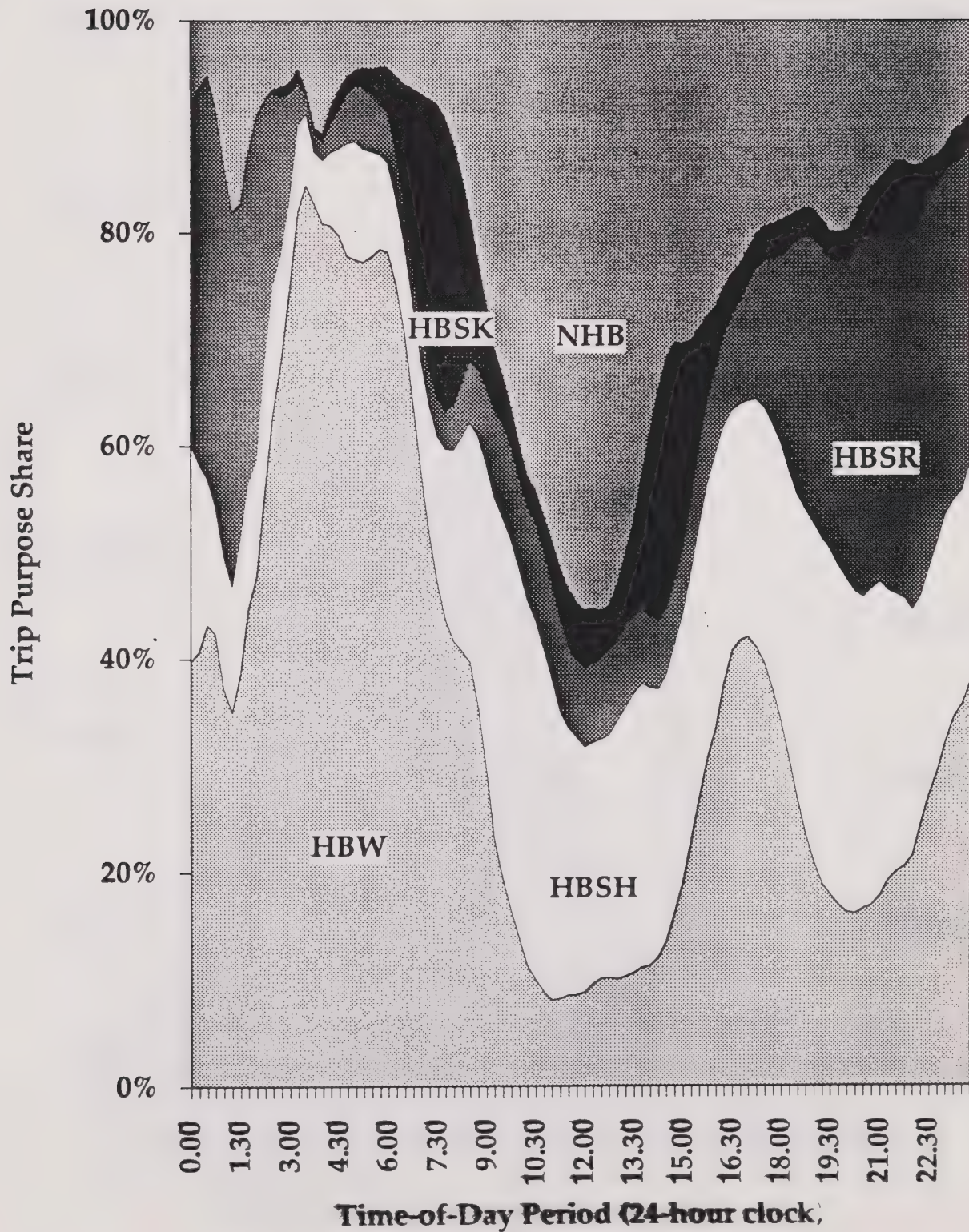


Figure 2.3.7  
Trip Purpose Share by Time-of-Day





## **2.4 Reported Trip Duration by Trip Purpose and Travel Mode**

This section of Working Paper #4 discusses the average trip duration as reported by survey respondents as well as frequency distributions of trip duration and reported trip start times.

The 1990 household travel survey asked respondents to record the beginning and ending time for each of their trips for the entire day. Trip duration is then calculated as the difference between the beginning and ending times. Survey respondents have a strong tendency to round off and report trip times to the nearest five minutes. Respondents also have a strong tendency to report trip start times beginning on the hour, half-hour, or on the quarter-hour. This tendency to round off when reporting travel times and trip duration results in "spiky" frequency distribution of responses, with spikes at intervals of five minutes (in the case of reported trip duration) or with spikes at quarter-hour intervals (in the case of reported trip start time). The following table shows the distribution of regional weekday trips by recorded starting minute, comparing the 1990 Bay Area household travel survey to the 1990 Nationwide Personal Transportation Survey (NPTS):

Starting Minute	NPTS Trips (000s)	Percent of Trips	Cumul. Percent of Trips	Bay Area Trips (000s)	Percent of Trips	Cumul. Percent of Trips
00	51,999	36.2%	36.2%	4,437	26.2%	26.2%
30	39,847	27.8%	64.0%	3,589	21.2%	47.4%
45	13,223	9.2%	73.2%	1,524	9.0%	56.4%
15	12,433	8.7%	81.9%	1,472	8.7%	65.1%
Other	26,043	18.1%	100.0%	5,945	35.0%	100.0%
Total	143,545	100.0%		16,967	100.0%	

NPTS Source: Ryuichi Kitamura "Time of Day Characteristics of Travel" In *Implications of Emerging Travel Trends: Conference Proceedings*, Federal Highway Administration, Washington, D.C., July 1994, p. 13.

The Bay Area household travel survey analysis indicates that nearly half of Bay Area trips are reported to start either on-the-hour or on-the-half-hour. Respondents to the NPTS survey show a higher tendency (64.0%) to report trips starting on-the-hour or on-the-half-hour. In the Bay Area, 35.0 percent of trips are reported to start

at times other than the quarter-hour; for the NPTS, 18.1 percent of all trips start at “all other” times.

In a similar manner, survey respondents tend to round off and report the duration of their trips to the nearest five minutes. The following table highlights these findings:

Reported Trip Duration	Number of Trips	Percent of Total
5 minutes	2,447,800	14.4%
10 minutes	2,822,800	16.6%
15 minutes	2,779,400	16.4%
20 minutes	1,515,200	8.9%
25 minutes	709,700	4.2%
30 minutes	1,718,200	10.1%
35 minutes	370,300	2.2%
40 minutes	384,100	2.3%
45 minutes	527,300	3.1%
50 minutes	183,200	1.1%
55 minutes	103,100	0.6%
60 minutes	422,300	2.5%
Sub-Total	13,983,300	82.4%
All Other Times	2,983,400	17.6%
TOTAL	16,966,700	100.0%

This table shows that 82 percent of all trips in the 1990 survey are reported to the nearest five minutes for all trips 60 minutes or less. Only 17.6 of all trips are reported at either travel times larger than 60 minutes (i.e., 4.1 percent of all trips) or at all other travel times (i.e., 13.5 percent of all trips). The most common answer to the average travel time questions for the 1990 survey is 10 minutes (16.6 percent of all trips), followed closely by trips reported at 15 minutes duration (16.4 percent of all trips).

**Regional average reported trip duration, by trip purpose and travel mode, is shown** in Table 2.4.1. The average (mean) trip in the Bay Area in 1990 is 21.4 minutes in duration. This ranges from a low of 17.1 minutes per trip for home-based shop trips



to a high of 29.3 minutes for home-based work trips. (The 1990 survey-reported work trip duration of 29.3 minutes is nearly 11 percent higher than the 1990 Census reported commute duration of 26.5 minutes.)

By means of transportation, walk trips are the shortest in duration, at an average of 14.0 minutes per one-way walk trip. This compares to public transportation where the average door-to-door reported trip duration is 47.2 minutes. Note that the public transportation travel time includes access and egress time (walking, driving to station) and waiting time. Also note that the mode "person commuter" includes vehicle driver, vehicle passenger and transit passenger.

The frequency distribution of trips by reported trip duration by trip purpose is shown in Table 2.4.2. The three sub-tables in Table 2.4.2 show the number of trips, the percent of the column totals by trip purpose, and the cumulative percent of column totals by trip purpose. This data is also graphed in Figure 2.4.1. This chart is useful in showing the spikiness of the distribution at intervals of 15, 30, 45 and 60 minutes, even with the level of aggregation at five minute intervals. The median travel time for all non-work trips is 15 minutes. The median travel time for home-based work trips is 24.6 minutes.

The frequency distribution of trips by reported trip duration by travel mode is shown in Table 2.4.3. The three sub-tables for Table 2.4.3 show the number of trips, the percent of trips, and the cumulative percent. The cumulative frequency distribution for regional walk trips shows that 76.6 percent of all walk trips are 15 minutes or less in duration. This contrasts to transit passenger trips where only 10.2 percent of transit passenger trips are 15 minutes or less. The median walk trip duration is about 9.6 minutes; for transit passenger trips, the median trip duration is 45 minutes.

**Table 2.4.1**

**Regional 1990 Weekday Reported Trip Duration (in Minutes) by Purpose and Mode**

Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
Vehicle Driver	26.9	16.0	19.3	19.8	18.6	20.6
Vehicle Passenger	28.6	17.5	19.9	14.4	18.4	18.9
<i>Vehicle Persons</i>	27.0	16.3	19.5	16.5	18.6	20.3
Transit Passenger	53.4	43.9	56.9	40.6	38.6	47.2
<i>Person Commuter</i>	29.8	17.5	20.9	20.8	19.5	22.2
School Bus	NA	NA	NA	29.8	NA	29.6
Bicycle	19.1	16.5	21.1	12.7	19.6	17.5
Walk	17.1	13.1	19.6	14.8	11.6	14.0
Other	26.5 †	21.0 †	23.6 †	9.5 †	26.1	29.3
<i>Total Modes</i>	29.3	17.1	20.8	20.1	18.5	21.4

† Value is based on less than 50 sample trips and is shown for information purposes only.



**Table 2.4.2****Regional 1990 Trip Duration Frequency Distribution by Trip Purpose***Number of Regional Trips*

Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
0 - 5 minutes	269,350	807,952	272,973	242,906	953,920	2,547,101
5.1 - 10.0 minutes	416,075	881,203	357,196	282,305	917,191	2,853,970
10.1 - 15.0 minutes	886,859	1,217,440	491,636	434,810	1,206,126	4,236,871
15.1 - 20.0 minutes	440,776	316,201	137,957	139,623	331,661	1,366,218
20.1 - 25.0 minutes	283,777	200,142	84,876	103,114	213,205	885,114
25.1 - 30.0 minutes	807,327	391,393	228,241	211,851	455,129	2,093,941
30.1 - 35.0 minutes	155,706	53,270	27,501	40,179	71,154	347,810
35.1 - 40.0 minutes	169,675	50,564	34,060	38,579	79,675	372,553
40.1 - 45.0 minutes	327,028	101,392	60,827	69,478	150,929	709,654
45.1 - 50.0 minutes	88,325	25,253	16,074	11,509	30,240	171,401
50.1 - 55.0 minutes	56,228	15,686	10,876	13,804	25,282	121,876
55.1 - 60.0 minutes	227,844	76,162	48,138	38,221	94,638	485,003
60.1 - 65.0 minutes	45,851	10,352	5,287	3,284	16,144	80,918
65.1 - 70.0 minutes	42,824	11,974	7,697	3,952	14,434	80,881
70.1 - 75.0 minutes	81,350	20,182	14,642	10,800	35,675	162,649
75.1 - 80.0 minutes	22,123	5,876	3,311	3,321	9,344	43,975
80.1 - 85.0 minutes	13,594	3,852	3,121	2,495	4,950	28,012
85.0 - 90.0 minutes	50,220	13,375	12,996	4,947	27,684	109,222
> 90.0 minutes	68,457	29,496	26,402	9,446	47,242	181,043
<b>TOTAL</b>	<b>4,453,389</b>	<b>4,231,765</b>	<b>1,843,811</b>	<b>1,664,624</b>	<b>4,684,623</b>	<b>16,878,212</b>

**Table 2.4.2 (continued)**

**Regional 1990 Trip Duration Frequency Distribution by Trip Purpose**

*Percent of Total Trips*

Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
0 - 5 minutes	6.0%	19.1%	14.8%	14.6%	20.4%	15.1%
5.1 - 10.0 minutes	9.3%	20.8%	19.4%	17.0%	19.6%	16.9%
10.1 - 15.0 minutes	19.9%	28.8%	26.7%	26.1%	25.7%	25.1%
15.1 - 20.0 minutes	9.9%	7.5%	7.5%	8.4%	7.1%	8.1%
20.1 - 25.0 minutes	6.4%	4.7%	4.6%	6.2%	4.6%	5.2%
25.1 - 30.0 minutes	18.1%	9.2%	12.4%	12.7%	9.7%	12.4%
30.1 - 35.0 minutes	3.5%	1.3%	1.5%	2.4%	1.5%	2.1%
35.1 - 40.0 minutes	3.8%	1.2%	1.8%	2.3%	1.7%	2.2%
40.1 - 45.0 minutes	7.3%	2.4%	3.3%	4.2%	3.2%	4.2%
45.1 - 50.0 minutes	2.0%	0.6%	0.9%	0.7%	0.6%	1.0%
50.1 - 55.0 minutes	1.3%	0.4%	0.6%	0.8%	0.5%	0.7%
55.1 - 60.0 minutes	5.1%	1.8%	2.6%	2.3%	2.0%	2.9%
60.1 - 65.0 minutes	1.0%	0.2%	0.3%	0.2%	0.3%	0.5%
65.1 - 70.0 minutes	1.0%	0.3%	0.4%	0.2%	0.3%	0.5%
70.1 - 75.0 minutes	1.8%	0.5%	0.8%	0.6%	0.8%	1.0%
75.1 - 80.0 minutes	0.5%	0.1%	0.2%	0.2%	0.2%	0.3%
80.1 - 85.0 minutes	0.3%	0.1%	0.2%	0.1%	0.1%	0.2%
85.0 - 90.0 minutes	1.1%	0.3%	0.7%	0.3%	0.6%	0.6%
> 90.0 minutes	1.5%	0.7%	1.4%	0.6%	1.0%	1.1%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Table 2.4.2 (continued)**

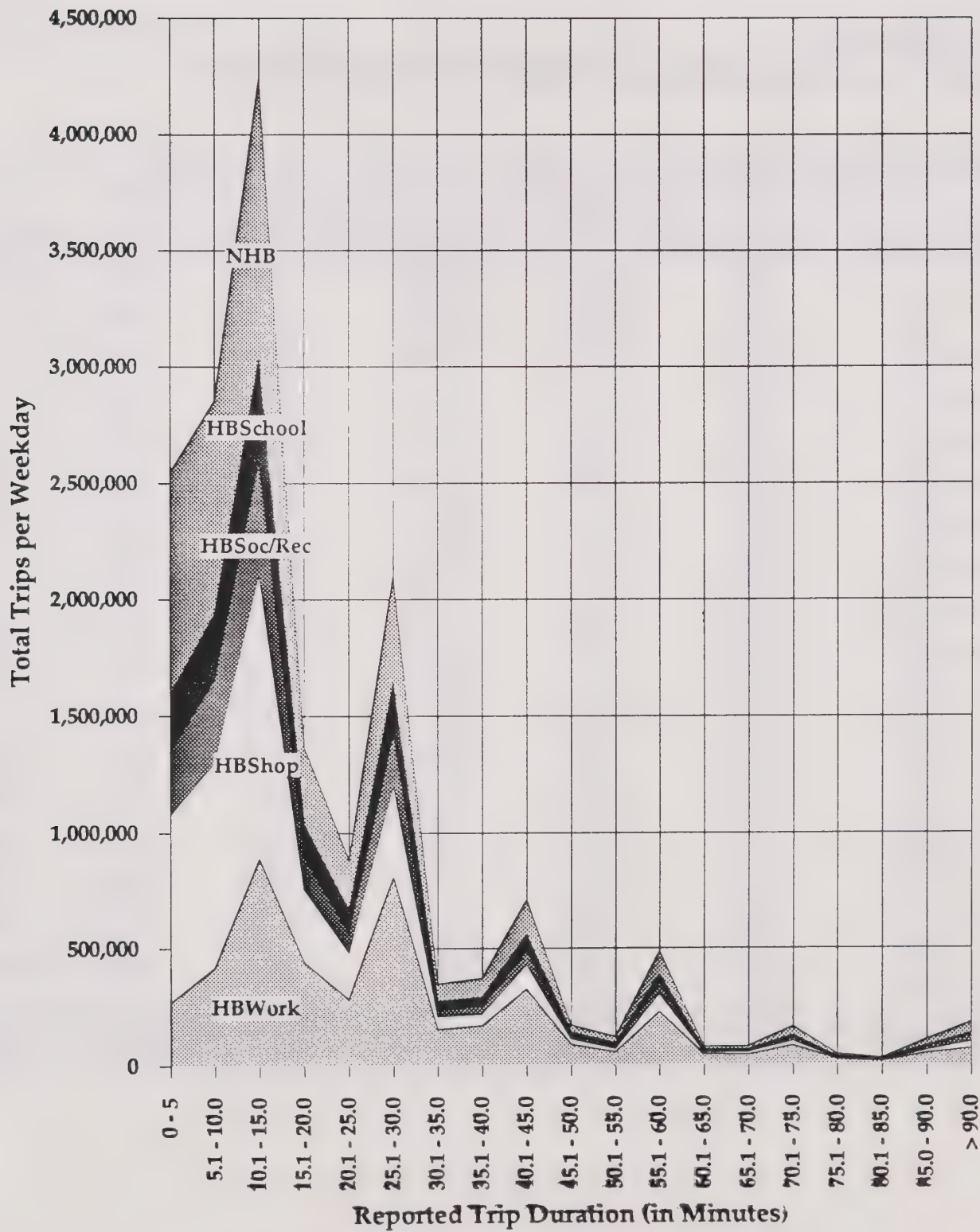
**Regional 1990 Trip Duration Frequency Distribution by Trip Purpose**

*Cumulative Percent of Total Trips*

Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
0 - 5 minutes	6.0%	19.1%	14.8%	14.6%	20.4%	15.1%
5.1 - 10.0 minutes	15.4%	39.9%	34.2%	31.6%	39.9%	32.0%
10.1 - 15.0 minutes	35.3%	68.7%	60.8%	57.7%	65.7%	57.1%
15.1 - 20.0 minutes	45.2%	76.2%	68.3%	66.1%	72.8%	65.2%
20.1 - 25.0 minutes	51.6%	80.9%	72.9%	72.3%	77.3%	70.4%
25.1 - 30.0 minutes	69.7%	90.1%	85.3%	85.0%	87.0%	82.8%
30.1 - 35.0 minutes	73.2%	91.4%	86.8%	87.4%	88.6%	84.9%
35.1 - 40.0 minutes	77.0%	92.6%	88.6%	89.7%	90.3%	87.1%
40.1 - 45.0 minutes	84.4%	95.0%	91.9%	93.9%	93.5%	91.3%
45.1 - 50.0 minutes	86.3%	95.6%	92.8%	94.6%	94.1%	92.3%
50.1 - 55.0 minutes	87.6%	96.0%	93.4%	95.4%	94.7%	93.1%
55.1 - 60.0 minutes	92.7%	97.8%	96.0%	97.7%	96.7%	95.9%
60.1 - 65.0 minutes	93.7%	98.0%	96.3%	97.9%	97.0%	96.4%
65.1 - 70.0 minutes	94.7%	98.3%	96.7%	98.1%	97.3%	96.9%
70.1 - 75.0 minutes	96.5%	98.8%	97.5%	98.8%	98.1%	97.9%
75.1 - 80.0 minutes	97.0%	98.9%	97.7%	99.0%	98.3%	98.1%
80.1 - 85.0 minutes	97.3%	99.0%	97.9%	99.1%	98.4%	98.3%
85.0 - 90.0 minutes	98.5%	99.3%	98.6%	99.4%	99.0%	98.9%
> 90.0 minutes	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



**Figure 2.4.1**  
**Trip Duration Frequency Distribution**  
**Weekday Trips by Trip Purpose**



**Table 2.4.3****Regional 1990 Trip Duration Frequency Distribution by Travel Mode***Number of Regional Trips*

	Vehicle	Vehicle	Transit	Schoolbus				Total
Travel Time	Driver	Passenger	Passenger	Passenger	Bicycle	Walk	Other	Purposes
0 - 5 minutes	1,555,659	443,790	11,877	3,715	49,142	476,196	6,723	2,547,102
5.1 - 10.0 minutes	1,860,828	555,008	24,764	8,318	50,828	346,245	7,978	2,853,969
10.1 - 15.0 minutes	2,806,648	808,376	69,360	26,368	70,699	440,552	14,867	4,236,870
15.1 - 20.0 minutes	959,200	211,885	52,692	24,705	18,408	92,357	6,970	1,366,217
20.1 - 25.0 minutes	592,181	132,630	58,100	24,800	14,526	60,771	2,107	885,115
25.1 - 30.0 minutes	1,404,857	315,317	162,129	44,537	30,586	131,541	4,974	2,093,941
30.1 - 35.0 minutes	224,955	45,593	55,701	7,191	1,267	12,275	827	347,809
35.1 - 40.0 minutes	238,712	37,786	64,028	13,319	897	16,579	1,232	372,553
40.1 - 45.0 minutes	463,639	86,540	107,931	22,812	4,084	23,020	1,628	709,654
45.1 - 50.0 minutes	99,178	14,081	48,528	2,451	894	6,093	177	171,402
50.1 - 55.0 minutes	65,235	12,142	35,528	4,507	512	3,716	234	121,874
55.1 - 60.0 minutes	276,007	61,615	106,874	10,024	4,734	24,210	1,540	485,004
60.1 - 65.0 minutes	36,166	9,810	32,796	605	113	1,429	0	80,919
65.1 - 70.0 minutes	32,338	11,915	33,932	1,213	579	905	0	80,882
70.1 - 75.0 minutes	90,284	14,348	51,196	2,104	507	3,555	655	162,649
75.1 - 80.0 minutes	21,575	4,933	14,891	1,022	295	999	259	43,974
80.1 - 85.0 minutes	9,210	2,300	15,596	83	464	250	109	28,012
85.0 - 90.0 minutes	64,916	12,403	26,452	730	1,181	3,539	0	109,221
> 90.0 minutes	72,087	28,634	70,108	347	2,896	5,226	1,747	181,045
<b>TOTAL</b>	<b>10,873,675</b>	<b>2,809,106</b>	<b>1,042,483</b>	<b>198,851</b>	<b>252,612</b>	<b>1,649,458</b>	<b>52,027</b>	<b>16,878,212</b>

**Table 2.4.3 (continued)**

**Regional 1990 Trip Duration Frequency Distribution by Travel Mode**

*Percent of Total Trips*

Travel Time	Vehicle Driver	Vehicle Passenger	Transit Passenger	Schoolbus Passenger	Bicycle	Walk	Other	Total Purposes
0 - 5 minutes	14.3%	15.8%	1.1%	1.9%	19.5%	28.9%	12.9%	15.1%
5.1 - 10.0 minutes	17.1%	19.8%	2.4%	4.2%	20.1%	21.0%	15.3%	16.9%
10.1 - 15.0 minutes	25.8%	28.8%	6.7%	13.3%	28.0%	26.7%	28.6%	25.1%
15.1 - 20.0 minutes	8.8%	7.5%	5.1%	12.4%	7.3%	5.6%	13.4%	8.1%
20.1 - 25.0 minutes	5.4%	4.7%	5.6%	12.5%	5.8%	3.7%	4.0%	5.2%
25.1 - 30.0 minutes	12.9%	11.2%	15.6%	22.4%	12.1%	8.0%	9.6%	12.4%
30.1 - 35.0 minutes	2.1%	1.6%	5.3%	3.6%	0.5%	0.7%	1.6%	2.1%
35.1 - 40.0 minutes	2.2%	1.3%	6.1%	6.7%	0.4%	1.0%	2.4%	2.2%
40.1 - 45.0 minutes	4.3%	3.1%	10.4%	11.5%	1.6%	1.4%	3.1%	4.2%
45.1 - 50.0 minutes	0.9%	0.5%	4.7%	1.2%	0.4%	0.4%	0.3%	1.0%
50.1 - 55.0 minutes	0.6%	0.4%	3.4%	2.3%	0.2%	0.2%	0.4%	0.7%
55.1 - 60.0 minutes	2.5%	2.2%	10.3%	5.0%	1.9%	1.5%	3.0%	2.9%
60.1 - 65.0 minutes	0.3%	0.3%	3.1%	0.3%	0.0%	0.1%	0.0%	0.5%
65.1 - 70.0 minutes	0.3%	0.4%	3.3%	0.6%	0.2%	0.1%	0.0%	0.5%
70.1 - 75.0 minutes	0.8%	0.5%	4.9%	1.1%	0.2%	0.2%	1.3%	1.0%
75.1 - 80.0 minutes	0.2%	0.2%	1.4%	0.5%	0.1%	0.1%	0.5%	0.3%
80.1 - 85.0 minutes	0.1%	0.1%	1.5%	0.0%	0.2%	0.0%	0.2%	0.2%
85.0 - 90.0 minutes	0.6%	0.4%	2.5%	0.4%	0.5%	0.2%	0.0%	0.6%
> 90.0 minutes	0.7%	1.0%	6.7%	0.2%	1.1%	0.3%	3.4%	1.1%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	####	100.0%



**Table 2.4.3 (continued)**

**Regional 1990 Trip Duration Frequency Distribution by Travel Mode**

*Cumulative Percent of Total Trips*

Travel Time	Vehicle Driver	Vehicle Passenger	Transit Passenger	Schoolbus Passenger	Bicycle	Walk	Other	Total Purposes
0 - 5 minutes	14.3%	15.8%	1.1%	1.9%	19.5%	28.9%	12.9%	15.1%
5.1 - 10.0 minutes	31.4%	35.6%	3.5%	6.1%	39.6%	49.9%	28.3%	32.0%
10.1 - 15.0 minutes	57.2%	64.3%	10.2%	19.3%	67.6%	76.6%	56.8%	57.1%
15.1 - 20.0 minutes	66.1%	71.9%	15.2%	31.7%	74.8%	82.2%	70.2%	65.2%
20.1 - 25.0 minutes	71.5%	76.6%	20.8%	44.2%	80.6%	85.9%	74.3%	70.4%
25.1 - 30.0 minutes	84.4%	87.8%	36.3%	66.6%	92.7%	93.8%	83.8%	82.8%
30.1 - 35.0 minutes	86.5%	89.4%	41.7%	70.2%	93.2%	94.6%	85.4%	84.9%
35.1 - 40.0 minutes	88.7%	90.8%	47.8%	76.9%	93.6%	95.6%	87.8%	87.1%
40.1 - 45.0 minutes	92.9%	93.9%	58.2%	88.4%	95.2%	97.0%	90.9%	91.3%
45.1 - 50.0 minutes	93.9%	94.4%	62.8%	89.6%	95.5%	97.3%	91.3%	92.3%
50.1 - 55.0 minutes	94.5%	94.8%	66.2%	91.9%	95.7%	97.6%	91.7%	93.1%
55.1 - 60.0 minutes	97.0%	97.0%	76.5%	96.9%	97.6%	99.0%	94.7%	95.9%
60.1 - 65.0 minutes	97.3%	97.3%	79.6%	97.2%	97.7%	99.1%	94.7%	96.4%
65.1 - 70.0 minutes	97.6%	97.8%	82.9%	97.8%	97.9%	99.2%	94.7%	96.9%
70.1 - 75.0 minutes	98.5%	98.3%	87.8%	98.9%	98.1%	99.4%	95.9%	97.9%
75.1 - 80.0 minutes	98.7%	98.5%	89.2%	99.4%	98.2%	99.5%	96.4%	98.1%
80.1 - 85.0 minutes	98.7%	98.5%	90.7%	99.5%	98.4%	99.5%	96.6%	98.3%
85.0 - 90.0 minutes	99.3%	99.0%	93.3%	99.8%	98.9%	99.7%	96.6%	98.9%
> 90.0 minutes	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

### **3.0 Weekday 1990 Regional Household Trip Rates**

This section summarizes aggregate trip rates by market segment, reporting the number of average (mean) trips per household and per person in household. The market segments used in this analysis are those typically used by transportation planners in analyzing travel behavior, namely: household size, household income, vehicle ownership level, housing structure type, geographic area of residence, workers in the household, household life cycle stage and land use density. The trips, households and persons that this analysis is based on are from the intraregional expanded, weighted 1990 Bay Area household travel survey "single-day" sample.

#### **3.1 Regional Trip Rates by Trip Purpose and Travel Mode**

Regional trip rates by trip purpose and travel mode for trips per household, trips per person age five years and over, and trips per total persons in household, are shown in Table 3.1. These trip rates are based on a weighted, expanded count of 2,246,251 regional households; 5,329,955 persons-in-households age five years and over; and 5,873,094 total persons-in-households.

The average regional household in the Bay Area made just over 7.5 trips per weekday in 1990. By trip purpose, the average household made 1.99 home-based work trips per day; 1.89 home-based shop (other) trips per day; 0.83 home-based social/recreation trips per day; 0.74 home-based school trips per day; and 2.10 non-home-based trips per day. By travel mode, the average regional household made about 4.86 vehicle trips per average weekday, and just under one-half (0.48) transit trips per average weekday. The mode "in-vehicle person" is the combination of vehicle driver and vehicle passengers (excluding transit passengers). The mode "person" is the combination of vehicle driver, vehicle passenger and transit passenger modes.

The average person residing in households in the Bay Area, age five and over, made 3.18 daily trips per person in 1990. Also reported is the same number of trips divided by the entire household population, including infants and toddlers ages 0 to 4, at 2.89 trips per person.

**Table 3.1**  
**1990 Regional Trip Rates by Purpose and Mode**

Mode	Home - Based				Non-	Total
	Work	Shop	Soc/Rec	School	Home-Based	
<i>Trips per Household</i>						
Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
Transit	0.200	0.077	0.028	0.084	0.091	0.479
Person	1.902	1.720	0.710	0.477	1.786	6.594
School Bus	0.000	0.000	0.000	0.075	0.000	0.075
Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
Walk	0.061	0.151	0.089	0.160	0.287	0.748
Other	0.003	0.006	0.004	0.001	0.009	0.023
Total	1.991	1.891	0.827	0.744	2.100	7.553
<i>Trips per Person 5 Years and Older</i>						
Vehicle Driver	0.652	0.553	0.191	0.066	0.586	2.048
In-Vehicle Person	0.717	0.693	0.287	0.166	0.714	2.577
Transit	0.084	0.032	0.012	0.035	0.038	0.202
Person	0.801	0.725	0.299	0.201	0.753	2.779
School Bus	0.000	0.000	0.000	0.032	0.000	0.032
Bicycle	0.011	0.006	0.010	0.013	0.008	0.048
Walk	0.026	0.064	0.038	0.067	0.121	0.315
Other	0.001	0.002	0.002	0.001	0.004	0.010
Total	0.839	0.797	0.349	0.314	0.885	3.183
<i>Trips per Person in Household</i>						
Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
Transit	0.077	0.029	0.011	0.032	0.035	0.183
Person	0.727	0.658	0.271	0.182	0.683	2.522
School Bus	0.000	0.000	0.000	0.029	0.000	0.029
Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
Walk	0.023	0.058	0.034	0.061	0.110	0.286
Other	0.001	0.002	0.001	0.001	0.004	0.009
Total	0.761	0.723	0.316	0.285	0.803	2.889

*Note: Trip rates based on expanded survey households (2,246,251), population age 5+ (5,329,955); and total household population (5,873,094).*



### 3.2 Regional Trip Rates by Household Size

This section summarizes aggregate trip rates by household size, reporting the average numbers of trips per household. Trip rates are reported for households of one, two, three, four, and five-or-more persons in the household. Appendix Tables 3.2.1A (trips per household) and 3.2.2A (trips per person) provide detailed trip rates by trip purpose and travel mode. The regional distribution of households and household population by the five household size categories is shown below:

Household Size Group	Households	Percent of Households	Household Population	Percent of HHld. Pop.
One person	583,892	26.0%	583,892	9.9%
Two person	725,922	32.3%	1,451,844	24.7%
Three person	375,422	16.7%	1,126,266	19.2%
Four person	312,184	13.9%	1,248,738	21.3%
Five+ person	248,830	11.1%	1,462,353	24.9%
TOTAL	2,246,251	100.0%	5,873,094	100.0%

Trips per household by trip purpose by household size are graphed in Figure 3.2.1. Trips per household range from 3.6 trips for the average one-person household to a high of 14.3 trips for the average five-plus-person household. Home-based school trips per household are noticeably higher in the larger household size groups due to the presence of school-age children in households.

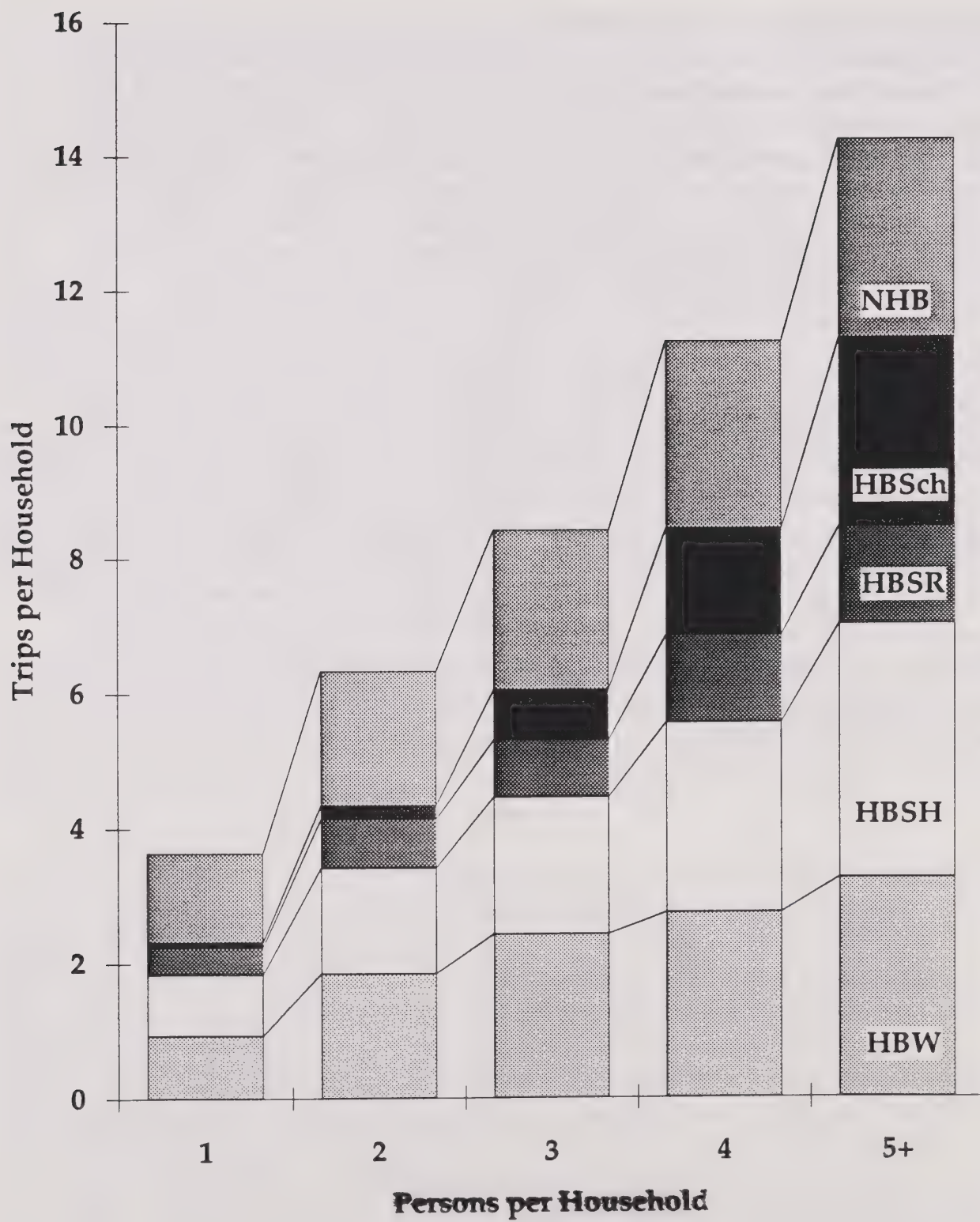
Trips per person by trip purpose by household size are depicted in Figure 3.2.2. One person households have the highest number of trips per person at 3.6 trips per weekday. This contrasts to the five-plus household size group with 2.4 trips per person per weekday. The higher trips per person trip rate for lower household size groups is due to the need for small households to conduct all of the household's activities: work trips, shopping errands, personal business errands, etc. Larger households can spread the chores and errands more efficiently among the different household members, essentially lowering the overall trips per person trip rates. Note that home-based work and non-home-based trips per person decreases with **increasing household size; home-based school trips per person increases with** increasing household size due to the presence of children in the household. Home-based shop and home-based social/recreation trips show a tendency to have fewer

trips per person with increasing household size.

Transit and total trips per household for home-based work and total purposes are shown, by household size, in Table 3.2.1. Transit shares are also graphed in Figure 3.2.3. Transit shares are highest for one-person households and lowest for four-person households. Transit shares for five-or-more person households are slightly higher than those for four-person households. For home-based work trips, the average regional one-person household takes transit 17.3 percent of the time; the average regional four-person household takes transit for 7.0 percent of all work trips. Similarly, transit shares for total trips range from a high of 10.1 percent for one-person households to a low of 4.7 percent for four-person households.

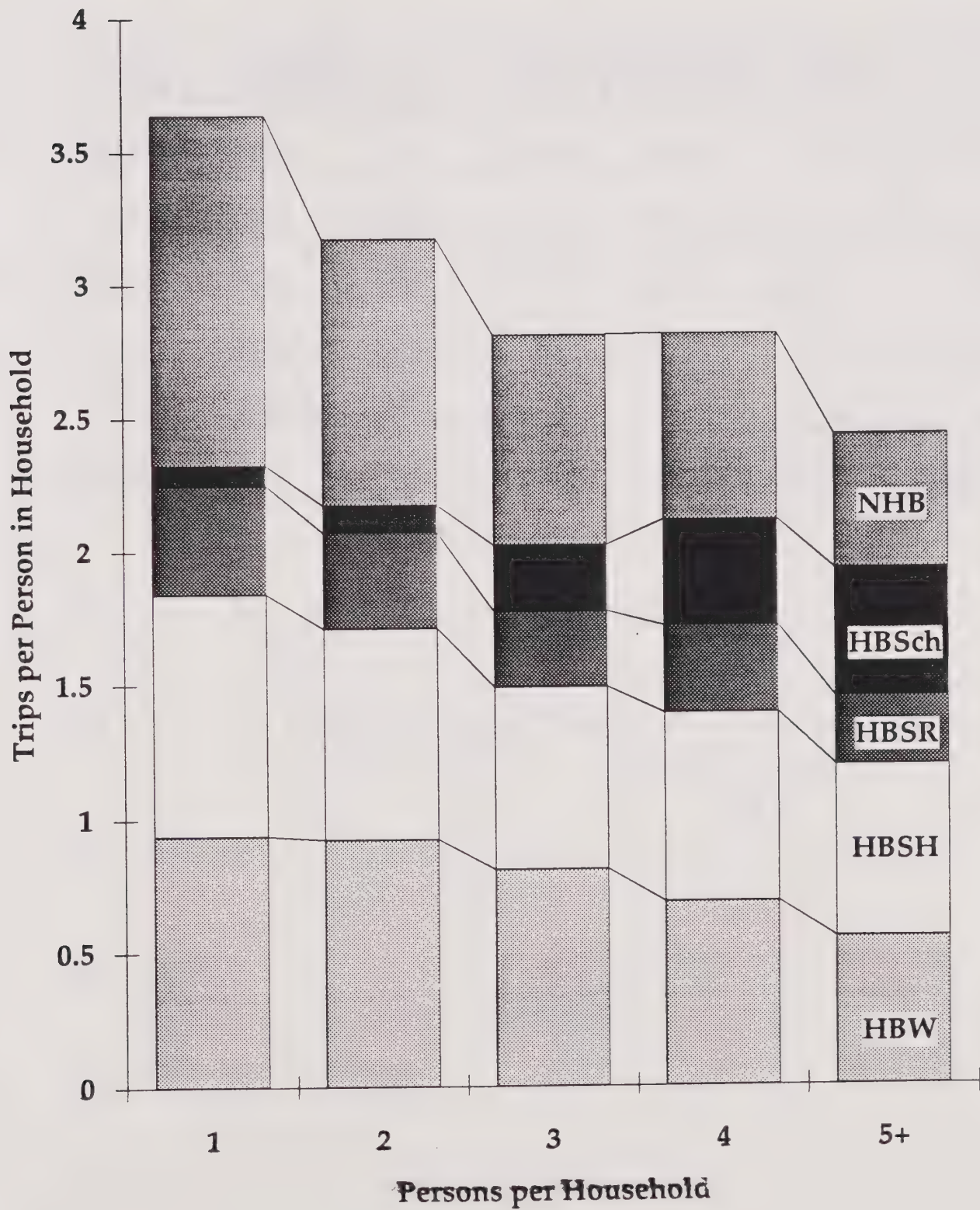
Other demographic characteristics of Bay Area regional households, stratified by the five household size groups, are presented in Table 3.2.2. Data is shown for income per household, income per person, vehicles per household, vehicles per person, average age of the household head, and average age of all persons in household (age five-or-more). This is useful in showing the inverse relationship between household size and income per capita, vehicles per capita, and age of the householder and members of the households. One person households tend to have the highest per capita incomes, the highest vehicles per capita, and tend to be older residents. Large households have school-age children who are not as likely to be employed and contributing to the household's income and who are not as likely to own or operate a motor vehicle. Children also have a tendency to bring down the average age in a household.

**Figure 3.2.1**  
**1990 Trips per Household by Household Size and Trip Purpose**





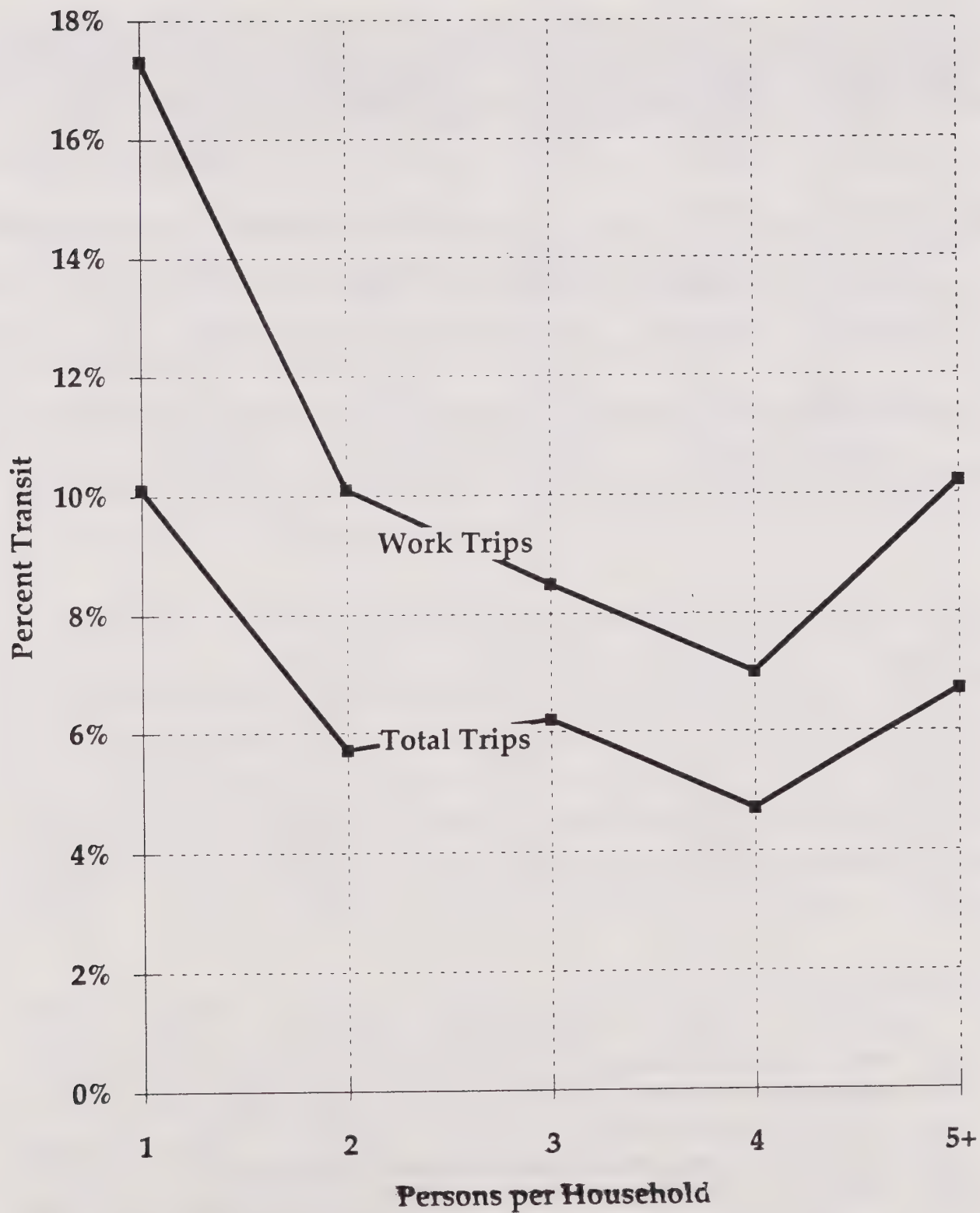
**Figure 3.2.2**  
**1990 Trips per Person in Household by Household Size and Trip Purpose**



**Table 3.2.1****1990 Regional Transit Share for Trips per Household by Household Size**

Household Size	Home-Based Work Trips			Total Trips		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
1 Person	0.162	0.937	17.3%	0.366	3.639	10.1%
2 Persons	0.186	1.849	10.1%	0.363	6.345	5.7%
3 Persons	0.206	2.432	8.5%	0.525	8.427	6.2%
4 Persons	0.192	2.751	7.0%	0.524	11.254	4.7%
5+ Persons	0.333	3.259	10.2%	0.958	14.303	6.7%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%

**Figure 3.2.3**  
**Regional Transit Share by Household Size**





**Table 3.2.2**  
**1990 Regional Household Characteristics by Household Size**

Household Size	Income per Household	Income per Person	Vehicles per Household	Vehicles per Person	Average Age of HHld Head	Avg. Age of Persons Age 5+ in HHlds
1 Person	\$32,474	\$32,474	0.95	0.95	47.8	47.8
2 Persons	\$50,853	\$25,427	1.82	0.91	45.6	44.7
3 Persons	\$54,909	\$18,303	2.13	0.71	37.8	34.2
4 Persons	\$58,185	\$14,546	2.37	0.59	36.6	29.4
5+ Persons	\$53,958	\$9,181	2.42	0.41	34.7	27.7
Total	\$48,117	\$18,682	1.79	0.68	42.4	39.8

### 3.3 Regional Trip Rates by Household Income

This section summarizes aggregate trip rates by household income group, reporting the average numbers of trips per household. Trip rates are reported for households by household income tertile (three groups: < \$30,000; \$30,000-\$60,000; \$60,000+) and by household income quartile (four groups: < \$25,000; \$25,000-\$45,000; \$45,000-\$75,000; and \$75,000+).

This analysis of trip rates by household income is conducted on reported household income, not imputed household income. Household income groups were imputed (e.g., assigned based on the characteristics of the sample households with and without valid income codes) for the approximately 31 percent of survey respondents who refused, or did not know, their total household income.

Appendix Tables 3.3.1A (trips per household) and 3.3.2A (trips per person) provide detailed trip rates by trip purpose and selected modes for the fifteen detailed household income groups collected in the 1990 survey. The regional distribution of households and household population by the household income tertiles is shown below:

HHld. Income Tertiles	Households	Percent of Households	Household Population	Mean HHld. Size
< \$30,000	493,258	22.0%	1,061,129	2.151
\$30,000 - \$60,000	621,697	27.7%	1,667,441	2.682
> \$60,000	421,876	18.8%	1,257,570	2.981
Refused/NA	709,419	31.6%	1,886,954	2.660
TOTAL	2,246,251	100.0%	5,873,094	2.615

Trips per household by trip purpose and travel mode by household income tertile is shown in Table 3.3.1. Low income households made an average of 5.8 trips per weekday in 1990; high income households, 10.3 trips per household. Transit shares for trips by trip purpose are also shown in Table 3.3.1. For home-based work trips, transit shares range from a high of 16.2 percent for low income households to a low of 8.6 percent for high income households. For total trip purposes, transit shares range from a high of 10.9 percent for low income households, to 4.1 percent for high income households. Households who refused to provide or did not know their

household income are somewhere between “low income” and “medium income” in terms of total trips per household (6.5 trips) and transit share (7.1 percent for total trip purposes).

Trips per person by trip purpose and travel mode by household income tertile is shown in Table 3.3.2. Trips per person increases with household income level, rising from 2.7 trips per person for low income households, to 3.1 trips per person for medium income households, to a high of 3.4 trips per person for high income households.

The regional distribution of households and household population by the household income quartiles is shown below:

HHld. Income Quartiles	Households	Percent of Households	Household Population	Mean HHld. Size
< \$25,000	361,061	16.1%	754,481	2.090
\$25 - \$45 K	509,816	22.7%	1,284,921	2.520
\$45 - \$75 K	416,393	18.5%	1,196,144	2.873
> \$75,000	249,562	11.1%	750,594	3.008
Refused/NA	709,419	31.6%	1,886,954	2.660
TOTAL	2,246,251	100.0%	5,873,094	2.615

Trips per household and per person, by trip purpose and travel mode by household income quartile is shown in Table 3.3.3 and 3.3.4, respectively. Total trips per household range from 5.5 trips for low income households (< \$25,000) to 10.5 trips per average weekday for high income households (> \$75,000). All purpose transit shares range from 12.5 percent for low income households to 3.7 percent for high income households. As with the income tertile analysis, trips per person increases with increasing household size.



Table 3.3.1

## 1990 Regional Trips per Household by Household Income Tertile

Household Income	Mode	Home-Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
Low Income (<\$30,000)	Vehicle Driver	0.799	1.060	0.309	0.112	0.939	3.217
	In-Vehicle Person	0.919	1.354	0.449	0.243	1.179	4.144
	Transit	0.201	0.132	0.043	0.130	0.127	0.634
	Person	1.120	1.486	0.492	0.373	1.307	4.779
	School Bus	0.000	0.000	0.000	0.068	0.000	0.068
	Bicycle	0.030	0.016	0.018	0.029	0.015	0.107
	Walk	0.089	0.225	0.096	0.146	0.282	0.838
	Other	0.003	0.006	0.003	0.002	0.017	0.031
Total		1.243	1.733	0.610	0.617	1.620	5.823
Percent Transit		16.2%	7.6%	7.1%	21.1%	7.9%	10.9%
Medium Income (\$30,000 - \$60,000)	Vehicle Driver	1.812	1.498	0.495	0.176	1.562	5.542
	In-Vehicle Person	1.981	1.851	0.750	0.476	1.873	6.931
	Transit	0.199	0.045	0.017	0.064	0.087	0.412
	Person	2.180	1.896	0.767	0.539	1.961	7.343
	School Bus	0.000	0.000	0.000	0.087	0.000	0.087
	Bicycle	0.019	0.016	0.025	0.021	0.016	0.096
	Walk	0.055	0.135	0.089	0.175	0.300	0.753
	Other	0.004	0.003	0.003	0.002	0.005	0.017
Total		2.258	2.050	0.883	0.824	2.282	8.297
Percent Transit		8.8%	2.2%	1.9%	7.7%	3.8%	5.0%
High Income (\$60,000+)	Vehicle Driver	2.254	1.747	0.652	0.213	2.215	7.081
	In-Vehicle Person	2.429	2.142	0.951	0.532	2.679	8.733
	Transit	0.237	0.034	0.016	0.057	0.079	0.422
	Person	2.666	2.176	0.967	0.589	2.758	9.156
	School Bus	0.000	0.000	0.000	0.060	0.000	0.060
	Bicycle	0.039	0.025	0.026	0.055	0.030	0.175
	Walk	0.034	0.114	0.111	0.148	0.437	0.844
	Other	0.004	0.005	0.006	0.001	0.013	0.029
Total		2.743	2.321	1.110	0.852	3.238	10.263
Percent Transit		8.6%	1.5%	1.4%	6.7%	2.4%	4.1%
Refused/ Unknown Income	Vehicle Driver	1.418	1.070	0.396	0.136	1.060	4.080
	In-Vehicle Person	1.568	1.366	0.624	0.343	1.312	5.212
	Transit	0.178	0.092	0.034	0.085	0.076	0.464
	Person	1.746	1.458	0.657	0.427	1.388	5.676
	School Bus	0.000	0.000	0.000	0.079	0.000	0.079
	Bicycle	0.020	0.005	0.029	0.027	0.014	0.095
	Walk	0.061	0.136	0.071	0.164	0.190	0.623
	Other	0.002	0.007	0.004	0.001	0.006	0.021
Total		1.830	1.606	0.762	0.698	1.598	6.493
Percent Transit		9.7%	5.7%	4.4%	12.1%	4.7%	7.1%
Total HH	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.005	0.025
Total		1.991	1.891	0.827	0.744	2.100	7.553
Percent Transit		10.0%	4.1%	3.3%	11.3%	4.3%	6.3%

**Table 3.3.2**  
**1990 Regional Trips per Person by Household Income Tertile**

Household Income	Mode	Home-Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
Low Income (<\$30,000)	Vehicle Driver	0.371	0.493	0.144	0.052	0.436	1.496
	In-Vehicle Person	0.427	0.629	0.209	0.113	0.548	1.926
	Transit	0.094	0.062	0.020	0.061	0.059	0.295
	Person	0.521	0.691	0.229	0.174	0.607	2.221
	School Bus	0.000	0.000	0.000	0.032	0.000	0.032
	Bicycle	0.014	0.007	0.008	0.013	0.007	0.050
	Walk	0.041	0.105	0.045	0.068	0.131	0.390
	Other	0.002	0.003	0.001	0.001	0.008	0.014
	Total	0.578	0.806	0.283	0.287	0.753	2.707
	Percent Transit	16.2%	7.6%	7.1%	21.1%	7.9%	10.9%
Medium Income (\$30,000 - \$60,000)	Vehicle Driver	0.676	0.558	0.184	0.065	0.582	2.066
	In-Vehicle Person	0.739	0.690	0.280	0.177	0.699	2.584
	Transit	0.074	0.017	0.006	0.024	0.033	0.154
	Person	0.813	0.707	0.286	0.201	0.731	2.738
	School Bus	0.000	0.000	0.000	0.032	0.000	0.032
	Bicycle	0.007	0.006	0.009	0.008	0.006	0.036
	Walk	0.020	0.050	0.033	0.065	0.112	0.281
	Other	0.001	0.001	0.001	0.001	0.002	0.006
	Total	0.842	0.764	0.329	0.307	0.851	3.093
	Percent Transit	8.8%	2.2%	1.9%	7.7%	3.8%	5.0%
High Income (\$60,000+)	Vehicle Driver	0.756	0.586	0.219	0.071	0.743	2.376
	In-Vehicle Person	0.815	0.719	0.319	0.178	0.899	2.930
	Transit	0.079	0.011	0.005	0.019	0.026	0.142
	Person	0.894	0.730	0.324	0.198	0.925	3.071
	School Bus	0.000	0.000	0.000	0.020	0.000	0.020
	Bicycle	0.013	0.008	0.009	0.018	0.010	0.059
	Walk	0.012	0.038	0.037	0.050	0.147	0.283
	Other	0.001	0.002	0.002	0.000	0.004	0.010
	Total	0.920	0.778	0.372	0.286	1.086	3.443
	Percent Transit	8.6%	1.5%	1.4%	6.7%	2.4%	4.1%
Refused/ Unknown Income	Vehicle Driver	0.533	0.402	0.149	0.051	0.399	1.534
	In-Vehicle Person	0.589	0.514	0.235	0.129	0.493	1.960
	Transit	0.067	0.035	0.013	0.032	0.028	0.174
	Person	0.656	0.548	0.247	0.161	0.522	2.134
	School Bus	0.000	0.000	0.000	0.030	0.000	0.030
	Bicycle	0.007	0.002	0.011	0.010	0.005	0.036
	Walk	0.023	0.051	0.027	0.062	0.071	0.234
	Other	0.001	0.003	0.002	0.000	0.002	0.008
	Total	0.688	0.604	0.286	0.262	0.601	2.441
	Percent Transit	9.7%	5.7%	4.4%	12.1%	4.7%	7.1%
Total HH	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.183
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.009
	Total	0.761	0.723	0.316	0.285	0.803	2.889
	Percent Transit	10.0%	4.1%	3.3%	11.3%	4.3%	6.3%



Table 3.3.3

## 1990 Regional Trips per Household by Household Income Quartile

Household Income	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Low Income (<\$25,000)	Vehicle Driver	0.659	0.999	0.306	0.113	0.888	2.965
	In-Vehicle Person	0.756	1.272	0.443	0.239	1.114	3.825
	Transit	0.203	0.157	0.051	0.144	0.133	0.688
	Person	0.960	1.429	0.494	0.383	1.247	4.513
	School Bus	0.000	0.000	0.000	0.067	0.000	0.067
	Bicycle	0.027	0.012	0.018	0.030	0.012	0.100
	Walk	0.094	0.238	0.101	0.124	0.265	0.822
	Other	0.004	0.007	0.003	0.002	0.002	0.019
Total		1.084	1.687	0.616	0.606	1.527	5.520
Percent Transit		18.7%	9.3%	8.2%	23.8%	8.7%	12.5%
Low Medium Income (\$25,000 - \$45,000)	Vehicle Driver	1.564	1.348	0.410	0.148	1.334	4.805
	In-Vehicle Person	1.735	1.683	0.625	0.406	1.611	6.061
	Transit	0.197	0.055	0.017	0.077	0.091	0.436
	Person	1.932	1.738	0.642	0.483	1.702	6.497
	School Bus	0.000	0.000	0.000	0.082	0.000	0.082
	Bicycle	0.025	0.016	0.023	0.020	0.014	0.098
	Walk	0.066	0.153	0.084	0.178	0.286	0.767
	Other	0.003	0.002	0.002	0.002	0.019	0.029
Total		2.026	1.909	0.751	0.764	2.022	7.473
Percent Transit		9.7%	2.9%	2.2%	10.1%	4.5%	5.8%
High Medium Income (\$45,000 - \$75,000)	Vehicle Driver	2.083	1.691	0.578	0.204	1.876	6.432
	In-Vehicle Person	2.247	2.081	0.848	0.502	2.257	7.935
	Transit	0.232	0.036	0.017	0.054	0.093	0.432
	Person	2.479	2.117	0.865	0.556	2.350	8.367
	School Bus	0.000	0.000	0.000	0.073	0.000	0.073
	Bicycle	0.027	0.017	0.026	0.039	0.029	0.138
	Walk	0.036	0.129	0.106	0.181	0.381	0.833
	Other	0.005	0.006	0.003	0.001	0.006	0.021
Total		2.548	2.268	0.999	0.851	2.767	9.433
Percent Transit		9.1%	1.6%	1.7%	6.4%	3.4%	4.6%
High Income (\$75,000+)	Vehicle Driver	2.280	1.757	0.700	0.211	2.351	7.299
	In-Vehicle Person	2.469	2.157	1.032	0.550	2.858	9.065
	Transit	0.213	0.032	0.017	0.057	0.068	0.387
	Person	2.681	2.188	1.049	0.607	2.926	9.452
	School Bus	0.000	0.000	0.000	0.065	0.000	0.065
	Bicycle	0.037	0.034	0.023	0.054	0.025	0.172
	Walk	0.039	0.103	0.107	0.128	0.439	0.816
	Other	0.003	0.004	0.010	0.001	0.014	0.032
Total		2.759	2.330	1.189	0.856	3.404	10.538
Percent Transit		7.7%	1.4%	1.5%	6.7%	2.0%	3.7%
Refused/Unknown Income	Vehicle Driver	1.418	1.070	0.396	0.136	1.060	4.080
	In-Vehicle Person	1.568	1.366	0.624	0.343	1.312	5.212
	Transit	0.178	0.092	0.034	0.085	0.076	0.464
	Person	1.746	1.458	0.657	0.427	1.388	5.676
	School Bus	0.000	0.000	0.000	0.079	0.000	0.079
	Bicycle	0.020	0.005	0.029	0.027	0.014	0.095
	Walk	0.061	0.136	0.071	0.164	0.190	0.623
	Other	0.002	0.007	0.004	0.001	0.006	0.021
Total		1.830	1.606	0.762	0.698	1.598	6.493
Percent Transit		9.7%	5.7%	4.4%	12.1%	4.7%	7.1%
Total HH	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.009	0.023
Total		1.991	1.891	0.827	0.744	2.100	7.553
Percent Transit		10.0%	4.1%	3.3%	11.3%	4.3%	6.3%



**Table 3.3.4**  
**1990 Regional Trips per Person by Household Income Quartile**

Household Income	Mode	Home - Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
Low Income (<\$25,000)	Vehicle Driver	0.315	0.478	0.146	0.054	0.425	1.419
	In-Vehicle Person	0.362	0.609	0.212	0.115	0.533	1.831
	Transit	0.097	0.075	0.024	0.069	0.064	0.329
	Person	0.459	0.684	0.236	0.183	0.597	2.160
	School Bus	0.000	0.000	0.000	0.032	0.000	0.032
	Bicycle	0.013	0.006	0.009	0.014	0.006	0.048
	Walk	0.045	0.114	0.048	0.059	0.127	0.393
	Other	0.002	0.003	0.002	0.001	0.001	0.009
Total		0.519	0.807	0.295	0.290	0.731	2.642
Percent Transit		18.7%	9.3%	8.2%	23.8%	8.7%	12.5%
Low Medium Income (\$25,000 - \$45,000)	Vehicle Driver	0.620	0.535	0.163	0.059	0.529	1.906
	In-Vehicle Person	0.689	0.668	0.248	0.161	0.639	2.405
	Transit	0.078	0.022	0.007	0.030	0.036	0.173
	Person	0.767	0.690	0.255	0.192	0.675	2.578
	School Bus	0.000	0.000	0.000	0.032	0.000	0.032
	Bicycle	0.010	0.006	0.009	0.008	0.006	0.039
	Walk	0.026	0.061	0.033	0.070	0.114	0.304
	Other	0.001	0.001	0.001	0.001	0.008	0.011
Total		0.804	0.758	0.298	0.303	0.802	2.965
Percent Transit		9.7%	2.9%	2.2%	10.1%	4.5%	5.8%
High Medium Income (\$45,000 - \$75,000)	Vehicle Driver	0.725	0.589	0.201	0.071	0.653	2.239
	In-Vehicle Person	0.782	0.724	0.295	0.175	0.786	2.762
	Transit	0.081	0.012	0.006	0.019	0.033	0.150
	Person	0.863	0.737	0.301	0.194	0.818	2.913
	School Bus	0.000	0.000	0.000	0.026	0.000	0.026
	Bicycle	0.010	0.006	0.009	0.013	0.010	0.048
	Walk	0.013	0.045	0.037	0.063	0.133	0.290
	Other	0.002	0.002	0.001	0.000	0.002	0.007
Total		0.887	0.790	0.348	0.296	0.963	3.284
Percent Transit		9.1%	1.6%	1.7%	6.4%	3.4%	4.6%
High Income (\$75,000+)	Vehicle Driver	0.758	0.584	0.233	0.070	0.782	2.427
	In-Vehicle Person	0.821	0.717	0.343	0.183	0.950	3.014
	Transit	0.071	0.011	0.006	0.019	0.023	0.129
	Person	0.891	0.728	0.349	0.202	0.973	3.143
	School Bus	0.000	0.000	0.000	0.022	0.000	0.022
	Bicycle	0.012	0.011	0.008	0.018	0.008	0.057
	Walk	0.013	0.034	0.036	0.043	0.146	0.271
	Other	0.001	0.001	0.003	0.000	0.005	0.011
Total		0.917	0.775	0.395	0.285	1.132	3.504
Percent Transit		7.7%	1.4%	1.5%	6.7%	2.0%	3.7%
Refused/ Unknown Income	Vehicle Driver	0.533	0.402	0.149	0.051	0.399	1.534
	In-Vehicle Person	0.589	0.514	0.235	0.129	0.493	1.960
	Transit	0.067	0.035	0.013	0.032	0.028	0.174
	Person	0.656	0.548	0.247	0.161	0.522	2.134
	School Bus	0.000	0.000	0.000	0.030	0.000	0.030
	Bicycle	0.007	0.002	0.011	0.010	0.005	0.036
	Walk	0.023	0.051	0.027	0.062	0.071	0.234
	Other	0.001	0.003	0.002	0.000	0.002	0.008
Total		0.688	0.604	0.286	0.262	0.601	2.441
Percent Transit		9.7%	5.7%	4.4%	12.1%	4.7%	7.1%
Total HH	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.185
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.009
Total		0.761	0.723	0.316	0.285	0.803	2.889
Percent Transit		10.0%	4.1%	3.3%	11.3%	4.3%	6.3%

### 3.4 Regional Trip Rates by Vehicle Availability

This section describes household trip rates stratified by vehicle availability level. The term “auto ownership” may be used interchangeably in this discussion, but the 1990 travel survey collected data on vehicles that were owned, leased or generally available for use by members of the household, so the accurate term to describe the information in this section is “vehicle availability.” Five levels of vehicle availability are reported: none, one, two, three, and four-or-more vehicles in the household. Appendix Table 3.4.1A (trips per household) and Table 3.4.2A (trips per person) provide detailed trip rates by trip purpose and travel mode.

The regional distribution of households and household population by vehicle availability level is shown below:

Vehicles Available	Households	Percent of Households	Household Population	Mean HHld. Size
No Vehicles	227,267	10.1%	416,455	1.832
One Vehicle	715,246	31.8%	1,380,727	1.930
Two Vehicles	832,990	37.1%	2,392,783	2.873
Three Vehicles	316,292	14.1%	1,081,972	3.421
Four + Vehicles	154,456	6.9%	601,157	3.892
TOTAL	2,246,251	100.0%	5,873,094	2.615

Transit shares for home-based work and total trips by vehicle availability level are shown in Table 3.4.1 and Figure 3.4.1. Transit shares for work trips drops from 51.4 percent of zero-vehicle households to 2.9 percent of four-or-more vehicle households. Transit shares for total trips drops from 41.0 percent of zero-vehicle households to 2.0 percent of four-or-more vehicle households.

Trips per household increases from 3.9 trips per weekday for zero-vehicle households to 12.3 trips per weekday for households with four-or-more vehicles. Home-based work total trips increases from 0.9 trips per weekday for zero-vehicle households to 3.7 trips per weekday for households with four-or-more vehicles. Transit trips per household decrease with increasing vehicle availability level, from **1.6 transit trips per weekday for zero-vehicle households to just 0.2 transit trips per weekday for households with four-or-more vehicles.**

Zero-vehicle households account for 10.1 percent of the Bay Area's households and 7.1 percent of the Bay Area's household population, but they also account for 33.6 percent of the Bay Area's total transit trips (361,900 out of 1,076,200) and 22.6 percent of the Bay Area's home-based work transit trips (101,500 out of 449,400).

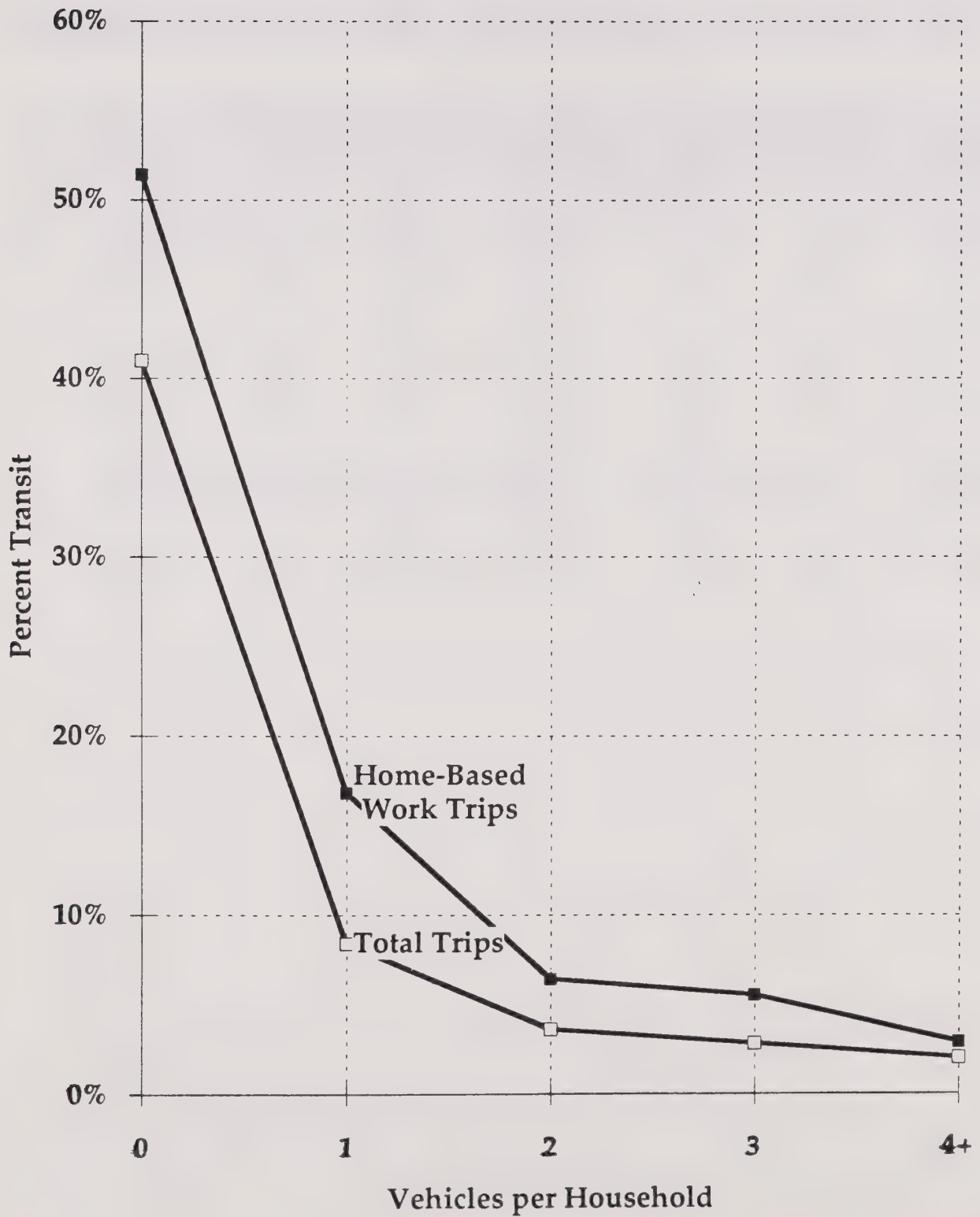
Demographic characteristics of households by vehicle availability level are summarized in Table 3.4.2. Vehicle availability shows a positive correlation with household size and household income, and an inverse relationship to age. This means that zero-vehicle households tend to be more elderly and tend to be poorer than multiple-vehicle households.



**Table 3.4.1****1990 Regional Transit Share for Trips per Household by Vehicle Availability**

Vehicles Available	Home-Based Work Trips / HH			Total Trips / HH		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
No Vehicles	0.447	0.869	51.4%	1.593	3.890	41.0%
1 Vehicle	0.232	1.378	16.8%	0.462	5.484	8.4%
2 Vehicles	0.143	2.234	6.4%	0.304	8.366	3.6%
3 Vehicles	0.148	2.685	5.5%	0.294	10.394	2.8%
4+ Vehicles	0.107	3.748	2.9%	0.241	12.333	2.0%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%

**Figure 3.4.1**  
**Regional Transit Shares by Vehicle Availability**



**Table 3.4.2**  
**1990 Regional Household Characteristics by Vehicle Availability**

Vehicles Available	Income per Household	Income per Person	Persons per Household	Vehicles per Person	Average Age of HHld Head	Avg. Age of Persons Age 5+ in HHlds
0 Vehicles	\$23,650	\$13,094	1.832	0.00	46.7	45.9
1 Vehicle	\$36,616	\$19,158	1.930	0.52	43.5	41.8
2 Vehicles	\$55,472	\$19,561	2.873	0.70	41.3	38.1
3 Vehicles	\$62,281	\$18,600	3.421	0.88	41.0	37.0
4+ Vehicles	\$68,696	\$18,090	3.892	1.15	39.7	36.1
Total	\$48,117	\$18,682	2.615	0.68	42.4	39.8



### 3.5 Regional Trip Rates by Housing Structure Type

This section describes household trip rates stratified by housing structure type. The six categories of housing structure type collected in the 1990 household travel survey are: single-family, duplex, apartment, condominium/townhome, mobile home, and hotel/motel. Appendix Table 3.5.1A (trips per household) and Table 3.5.2A (trips per person) provide detailed trip rate data by trip purpose and travel mode.

The regional distribution of households and household population by these six structure types is shown below:

Structure Type	Households	Percent of Total HHlds.	Household Population	Mean HHld. Size
Single Family	1,375,548	61.2%	4,053,325	2.947
Duplex	109,553	4.9%	273,658	2.498
Apartment	543,259	24.2%	1,093,430	2.013
Condo/Townhome	171,331	7.6%	362,999	2.119
Mobile Home	44,849	2.0%	86,963	1.939
Hotel/Motel*	1,710	0.1%	2,028	1.186
TOTAL	2,246,251	100.0%	5,872,403	2.615

*\* Sample represents less than 50 sample households and is not considered statistically significant. Trip rates are reported for information purposes only.*

As can be seen in the above table, single-family dwelling units account for 61.2 percent of the weighted, expanded regional households and 69.0 percent of the regional household population. Household size for single-family dwelling units (2.95 persons per household) is significantly larger than the other housing structure types (1.94 to 2.50 persons per household).

Household trip rates and transit share for home-based work and total trips, by housing structure type, is shown in Table 3.5. Household trip rates for work and total trips are highest for single-family dwelling units (8.6 trips per weekday), and lowest for apartment-dwelling households (5.5 trips per weekday). Transit shares are lowest for mobile home-based households (2.5%) and highest for apartment-dwelling households (13.7%)

**Table 3.5****1990 Regional Transit Share for Trips per Household by Structure Type**

Structure Type	Home-Based Work Trips / HH			Total Trips / HH		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
Single Family	0.159	2.176	7.3%	0.388	8.643	4.5%
Duplex	0.246	1.922	12.8%	0.575	6.663	8.6%
Apartment	0.318	1.644	19.3%	0.755	5.499	13.7%
Condo/ Townhm	0.151	1.851	8.2%	0.362	6.397	5.7%
Mobile Home	0.096	1.237	7.8%	0.145	5.779	2.5%
Hotel or Motel *	0.240	0.982	24.4%	0.775	3.127	24.8%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%

\* Sample represents less than 50 sample households and is not considered statistically significant. Trip rates are reported for information purposes only.

### **3.6 Regional Trip Rates by County of Residence**

This section describes household trip rates stratified by nine Bay Area counties of residence. Appendix Table 3.6.1A (trips per household) and Table 3.6.2A (trips per person) provide detailed trip rates by county of residence by trip purpose and travel mode.

The number of expanded survey households and household population, based on the expanded 1990 survey, is shown below:

County of Residence	Households	Percent of Total HHlds.	Household Population	Mean HHld. Size
San Francisco	305,581	13.6%	700,438	2.292
San Mateo	241,912	10.8%	637,626	2.636
Santa Clara	520,182	23.2%	1,463,237	2.813
Alameda	479,521	21.3%	1,242,074	2.590
Contra Costa	300,293	13.4%	795,161	2.645
Solano	113,428	5.0%	326,659	2.880
Napa	41,313	1.8%	105,087	2.544
Sonoma	149,010	6.6%	380,560	2.554
Marin	95,010	4.2%	221,561	2.332
TOTAL	2,246,251	100.0%	5,872,403	2.615

The total household and household population data should be very similar to 1990 Census data given that the 1990 household travel survey was weighted and expanded to the 1990 count of households by household size.

Total trips per household ranges from a low of 6.6 trips per weekday for San Francisco households to 8.3 trips per weekday for Napa County households (Table 3.6). Contra Costa County (8.1 trips per household per weekday) and Sonoma County (8.0 trips per household per weekday) also have higher than average household trip rates. Alameda County households, at 7.2 trips per household, have the second lowest trip rates after San Francisco.

Home-based work trips per household range from a low of 1.7 trips per weekday for



Sonoma County resident households to a high of 2.2 trips per weekday for Santa Clara County households. San Mateo County households also have higher than average home-based work trips per household (2.1 trips per weekday).

The transit share for all trip purposes for residents of San Francisco County is 23.1 percent, significantly higher than the regional transit share of 6.3 percent. For home-based work trips, San Franciscans take transit 32.3 percent of the time, compared to the regional share of 10.0 percent. San Francisco, with 13.6 percent of the regional households and 11.9 percent of the regional household population, accounts for 40.4 percent of the regional home-based work transit trips and 43.1 percent of the regional total transit trips.

Alameda County households have the second highest transit share for total trips in the region, at 7.4 percent of all trips. This is followed by San Mateo County (4.7 percent), Marin County (4.5 percent), and Contra Costa County (4.1 percent). The Bay Area counties with the lowest transit share of total trips include Napa County (1.1 percent), Solano County (1.7 percent) and Santa Clara County (2.0 percent).

Work-trip transit shares are similar in ranking to total-trip transit shares. Alameda County workers take transit 13.0 percent of the time; Marin County, 9.1 percent; Contra Costa County, 8.4 percent; and San Mateo County resident workers, 7.6 percent of the time. Work-trip transit shares are lowest for residents of Sonoma County (1.8 percent), Napa County (2.3 percent), and Santa Clara County (2.5 percent).

**Table 3.6****1990 Regional Transit Share for Trips per Household by County of Residence**

County of Residence	Home-Based Work Trips			Total Trips		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
San Francisco	0.594	1.841	32.3%	1.516	6.560	23.1%
San Mateo	0.158	2.080	7.6%	0.339	7.197	4.7%
Santa Clara	0.056	2.241	2.5%	0.155	7.741	2.0%
Alameda	0.255	1.968	13.0%	0.566	7.647	7.4%
Contra Costa	0.164	1.953	8.4%	0.336	8.103	4.1%
Solano	0.058	1.791	3.2%	0.129	7.524	1.7%
Napa	0.040	1.765	2.3%	0.088	8.320	1.1%
Sonoma	0.030	1.685	1.8%	0.187	7.998	2.3%
Marin	0.175	1.930	9.1%	0.334	7.423	4.5%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%

### 3.7 Regional Trip Rates by Workers in Household

This section describes household and person trip rates stratified by the number of workers in the household. Trip rates are reported for four workers-in-household categories: none, one, two, and three-or-more workers. There are no appendix tables to supplement this section.

The regional distribution of households and household population by the four workers-in-household categories is shown below:

Workers in Household	Households	Percent of Total HHlds.	Household Population	Mean HHld. Size
No Workers	403,653	18.0 percent	731,630	1.813
One Worker	867,272	38.6 percent	1,881,704	2.170
Two Workers	798,938	35.6 percent	2,468,587	3.090
Three+ Workers	176,388	7.9 percent	791,174	4.485
TOTAL	2,246,251	100.0 percent	5,873,094	2.615

The above table shows a high correlation between household size and workers per household. It is also useful to indicate that 18.0 percent of Bay Area households have no workers (e.g., household comprises all retired or unemployed adults), and that 43.5 percent of all households in the Bay Area are multi-worker households.

Total trips per household range from 4.4 trips per weekday for non-working households to 12.8 trips per weekday for multi-worker households with three-or-more workers (Table 3.7.1 and Figure 3.7.1). The survey results indicate that 3.0 percent of the trips made by households with no workers are home-based work trips. These trips are likely miscodes of trip purpose and are probably school trips or volunteer trips made by persons in these households.

Analyzing the trip purpose share for non-working and working households is useful in understanding the travel behavior of Bay Area residents. For non-working households, the largest share of trips are home-based shopping trips at 45.3 percent of all trips (1.972 home-based shop trips per day of 4.354 total trips per day). For multi-worker households with three-or-more workers, the largest share of trips are home-based work trips at 37.6 percent of all trips (4.813 home-based work trips out of 12.811 total trips). Non-working households tend to be elderly/retired or



unemployed households with shopping as the principal out-of-home activity. Multi-worker households tend to have workers who commute a lot. Home-based school and non-home-based trips per household increases with increasing number of workers in the household, yet home-based shop and home-based social/recreation trips per household show indefinite relationships with respect to workers in the household.

Transit shares for total trips range from a low of 5.2 percent of trips for two-worker households to a high of 10.6 percent for no-worker households. The home-based work transit share for one-worker households (12.8 percent) is noticeably higher than the shares for two-worker (8.8 percent) and three-or-more worker (9.5 percent) households.

There is a significant jump in trips per person when comparing non-working households (2.4 trips per weekday) to one-worker (3.0 trips) and multi-worker (2.9 to 3.0) households (Table 3.7.2). Total trips per person is virtually the same for the one-worker and multi-worker household categories. On a trip purpose basis, however, home-based work trips increase with increasing number of workers-in-households, which is offset by decreases in home-based shop, home-based social/recreation, and non-home-based trips per person.

**Table 3.7.1**  
**1990 Regional Trips per Household by Workers in Household**

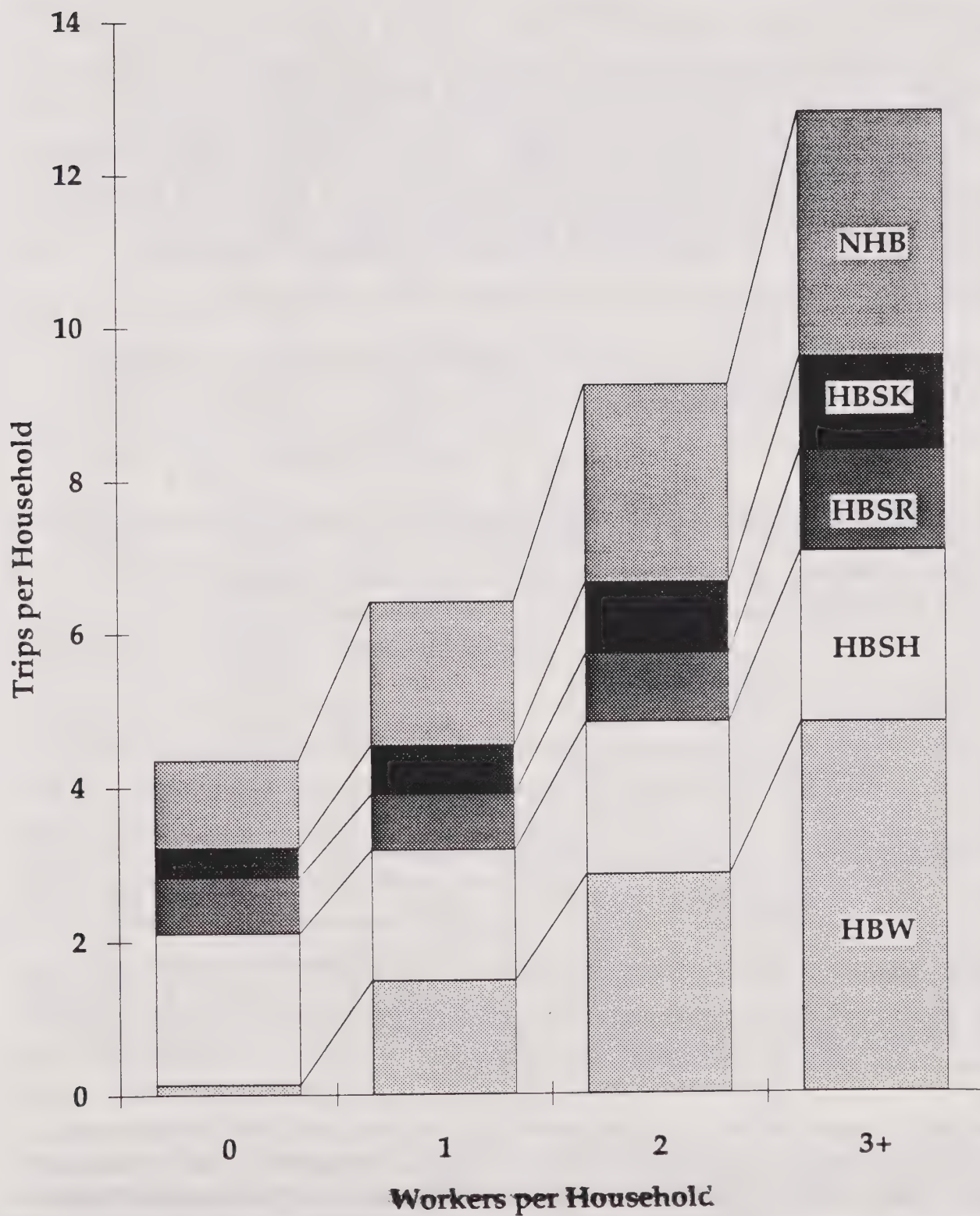
Workers in HHld.	Mode	Home-Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
No Workers	Vehicle Driver	0.078	1.199	0.364	0.071	0.638	2.351
	In-Vehicle Person	0.097	1.531	0.538	0.112	0.857	3.135
	Transit	0.008	0.173	0.064	0.119	0.099	0.462
	Person	0.105	1.703	0.602	0.231	0.956	3.597
	School Bus	0.000	0.000	0.000	0.047	0.000	0.047
	Bicycle	0.007	0.002	0.012	0.016	0.004	0.042
	Walk	0.021	0.255	0.109	0.097	0.170	0.652
	Other	0.000	0.011	0.002	0.002	0.001	0.016
	Total	0.133	1.972	0.725	0.394	1.130	4.354
	Percent Transit	5.8%	8.7%	8.9%	30.2%	8.7%	10.6%
One Worker	Vehicle Driver	1.135	1.229	0.413	0.122	1.252	4.151
	In-Vehicle Person	1.214	1.484	0.601	0.345	1.512	5.156
	Transit	0.190	0.055	0.018	0.058	0.079	0.400
	Person	1.404	1.539	0.619	0.402	1.591	5.555
	School Bus	0.000	0.000	0.000	0.053	0.000	0.053
	Bicycle	0.020	0.013	0.023	0.029	0.011	0.095
	Walk	0.058	0.146	0.080	0.142	0.267	0.692
	Other	0.003	0.005	0.003	0.001	0.011	0.023
	Total	1.484	1.702	0.725	0.627	1.880	6.418
	Percent Transit	12.8%	3.2%	2.5%	9.2%	4.2%	6.2%
Two Workers	Vehicle Driver	2.297	1.394	0.463	0.170	1.727	6.051
	In-Vehicle Person	2.503	1.798	0.747	0.514	2.102	7.663
	Transit	0.252	0.042	0.016	0.082	0.086	0.478
	Person	2.754	1.840	0.764	0.596	2.187	8.141
	School Bus	0.000	0.000	0.000	0.111	0.000	0.111
	Bicycle	0.033	0.020	0.029	0.036	0.029	0.146
	Walk	0.065	0.113	0.084	0.200	0.358	0.820
	Other	0.005	0.004	0.005	0.001	0.010	0.024
	Total	2.856	1.976	0.882	0.944	2.583	9.242
	Percent Transit	8.8%	2.1%	1.9%	8.7%	3.3%	5.2%
Three-or- More Workers	Vehicle Driver	3.552	1.625	0.797	0.452	2.256	8.681
	In-Vehicle Person	4.139	1.986	1.113	0.728	2.673	10.638
	Transit	0.458	0.123	0.042	0.138	0.152	0.913
	Person	4.597	2.109	1.155	0.866	2.824	11.550
	School Bus	0.000	0.000	0.000	0.087	0.000	0.087
	Bicycle	0.063	0.021	0.043	0.055	0.035	0.217
	Walk	0.145	0.111	0.116	0.208	0.337	0.916
	Other	0.008	0.006	0.007	0.003	0.017	0.040
	Total	4.813	2.246	1.320	1.219	3.213	12.811
	Percent Transit	9.5%	5.5%	3.2%	11.3%	4.7%	7.1%
Total HH	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.009	0.023
	Total	1.991	1.891	0.827	0.744	2.100	7.553
	Percent Transit	10.0%	4.1%	3.3%	11.3%	4.3%	6.3%

**Table 3.7.2**  
**1990 Regional Trips per Person by Workers in Household**

Workers in HHld.	Mode	Home-Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
No Workers	Vehicle Driver	0.043	0.662	0.201	0.039	0.352	1.297
	In-Vehicle Person	0.054	0.844	0.297	0.062	0.473	1.730
	Transit	0.004	0.095	0.036	0.066	0.055	0.255
	Person	0.058	0.940	0.332	0.127	0.527	1.985
	School Bus	0.000	0.000	0.000	0.026	0.000	0.026
	Bicycle	0.004	0.001	0.007	0.009	0.002	0.023
	Walk	0.011	0.141	0.060	0.054	0.094	0.360
	Other	0.000	0.006	0.001	0.001	0.000	0.009
	Total	0.074	1.088	0.400	0.217	0.623	2.402
	Percent Transit	5.8%	8.7%	8.9%	30.2%	8.7%	10.6%
One Worker	Vehicle Driver	0.523	0.566	0.190	0.056	0.577	1.913
	In-Vehicle Person	0.560	0.684	0.277	0.159	0.697	2.376
	Transit	0.087	0.025	0.008	0.027	0.037	0.184
	Person	0.647	0.709	0.285	0.186	0.733	2.560
	School Bus	0.000	0.000	0.000	0.024	0.000	0.024
	Bicycle	0.009	0.006	0.010	0.013	0.005	0.044
	Walk	0.027	0.067	0.037	0.065	0.123	0.319
	Other	0.001	0.002	0.001	0.000	0.005	0.010
	Total	0.684	0.785	0.334	0.289	0.867	2.958
	Percent Transit	12.8%	3.2%	2.5%	9.2%	4.2%	6.2%
Two Workers	Vehicle Driver	0.743	0.451	0.150	0.055	0.559	1.958
	In-Vehicle Person	0.810	0.582	0.242	0.166	0.680	2.480
	Transit	0.081	0.014	0.005	0.027	0.028	0.155
	Person	0.891	0.595	0.247	0.193	0.708	2.635
	School Bus	0.000	0.000	0.000	0.036	0.000	0.036
	Bicycle	0.011	0.006	0.009	0.012	0.009	0.047
	Walk	0.021	0.037	0.027	0.065	0.116	0.265
	Other	0.002	0.001	0.002	0.000	0.003	0.008
	Total	0.924	0.640	0.285	0.305	0.836	2.991
	Percent Transit	8.8%	2.1%	1.9%	8.7%	3.3%	5.2%
Three-or- More Workers	Vehicle Driver	0.792	0.362	0.178	0.101	0.503	1.935
	In-Vehicle Person	0.923	0.443	0.248	0.162	0.596	2.372
	Transit	0.102	0.027	0.009	0.031	0.034	0.203
	Person	1.025	0.470	0.257	0.193	0.630	2.575
	School Bus	0.000	0.000	0.000	0.019	0.000	0.019
	Bicycle	0.014	0.005	0.010	0.012	0.008	0.048
	Walk	0.032	0.025	0.026	0.046	0.075	0.204
	Other	0.002	0.001	0.002	0.001	0.004	0.009
	Total	1.073	0.501	0.294	0.272	0.716	2.856
	Percent Transit	9.5%	5.5%	3.2%	11.3%	4.7%	7.1%
Total HH	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.183
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.006
	Total	0.761	0.723	0.316	0.285	0.803	2.889
	Percent Transit	10.0%	4.1%	3.3%	11.3%	4.3%	6.3%



**Figure 3.7.1**  
**1990 Trips per Household by Workers in Household by Trip Purpose**



### 3.8 Regional Trip Rates by Household Life Cycle

This section describes household and person trip rates stratified by household life cycle. The household life cycle categories used in this analysis are based on the categories used in the 1990 Nationwide Personal Transportation Study (NPTS). These are commonly used life cycle categories that were developed by travel behavior researchers in the 1970s and 1980s. Travel behavior researchers have used the household life cycle concept as an alternative means of segmenting households into relevant groupings for explaining and understanding travel behavior of families and households. This analysis is MTC's first attempt at analyzing household travel survey data using the household life cycle concept.

A comparison of the distribution of households by household life cycle category based on the 1990 Bay Area travel survey and the 1990 NPTS is shown below:

Life Cycle Category	1990 NPTS HHlds (000s)	Percent of Total	1990 Bay Area HHlds.	Percent of Total
Single Adult, No Kids	15,505	16.7%	432,182	19.2%
Two or More Adults, No Kids	24,182	26.1%	540,446	24.1%
Single Adult, Child < 6	1,698	1.8%	49,939	2.2%
Two or More Adults, Child < 6	13,791	14.9%	316,374	14.1%
Single Adult, Child 6 - 15	2,382	2.6%	70,970	3.2%
Two or More Adults, Child 6-15	12,332	13.3%	295,720	13.2%
Single Adult, Child 16 - 21	819	0.9%	47,744	2.1%
Two or More Adults, Child 16-21	4,444	4.8%	113,890	5.1%
Single Adult, Retired, No Kids	7,642	8.3%	151,711	6.8%
Two or More Adults, Retired	9,777	10.6%	227,276	10.1%
TOTAL	92,572	100.0%	2,246,251	100.0%

NPTS Source: Patricia Hu and Jennifer Young. "1990 NPTS Databook: Volume 1" Federal Highway Administration, Washington, D.C., November 1993, p. 4-32.

The largest household life cycle category in the Bay Area is the "two or more adults, no children" category with 26.1 percent of all regional households. This is followed by the "single adult, no children" category at 16.7 percent of all households; "two or more adults, youngest child under 6 years" category at 14.9 percent; and the "two or



more adults, youngest child 6 to 15 years" category at 13.3 percent of all households. The 1990 Bay Area travel survey analysis of households by life cycle category are quite similar to the 1990 NPTS distribution of households by these same categories.

The distribution of 1990 Bay Area households, household population, total trips, total trips per household and total trips per capita is presented in Table 3.8.1. Mean household size ranges from 1.0 for the two sets of single adult categories to 4.39 persons per household for the "two or more adults, youngest child under 6 years" category. The "two or more adults, youngest child 6 to 15 years" category has the next highest average household size at 4.33 persons per household.

Trips per household range from a low of 2.7 trips per weekday for the single retired adult household to a high of 13.7 trips per weekday for the "two or more adults, youngest child 6 to 15 years" category. The second highest trips per household rate is for the "two or more adults, youngest child age 16 to 21 years" with an average of 11.9 trips per household per weekday.

In contrast, trips per person range from a low of 1.5 trips per weekday for the "single adult, youngest child under 6 years" household category to a high of 4.0 trips per weekday for the single adult (not retired) household group. On a trips per person basis, the second most mobile group are the "two or more adults, no children" set of households at 3.3 trips per person per weekday.

Trips per household by household life cycle category by trip purpose is highlighted in Table 3.8.2. Also shown are trip purpose shares. Home-based work shares range from 2.4 percent of the trips made by single retired adult households (most likely miscodes of trip purpose since these adults are reportedly retired) to 36.3 percent of all trips made by "two or more adults, no children" households. In terms of home-based work trips per household, the "two or more adults, youngest child 16 to 21 years" has the highest trip rate at 3.6 trips per household per weekday.

Home-based shop trip shares range from 18.5 percent of trips made by "single adult, youngest child 16 to 21 years" households to 50.5 percent of trips made by retired single adult households. These retired single adult households also have the highest share of home-based social/recreation trips (18.0 percent).

Home-based school trips account for 24.7 percent of the trips made by "single adult, **youngest child 6 to 15 years" households, followed for 20.0 percent of the trips made** by "two or more adults, youngest child 6 to 15 years" households.



**Table 3.8.1**
**1990 Regional Trips per Household and per Person by Household Life Cycle  
(Nationwide Personal Transportation Survey (NPTS) Categories)**
*Trips per Household*

Household Life Cycle Category	Total Households	% of Total	Total Trips, All Modes	Trips/ HH
1 Single Adult, No Children	432,182	19.2%	1,714,057	3.966
2 Two or More Adults, No Children	540,446	24.1%	4,011,938	7.423
3 Single Adult, Youngest Child Under 6	49,939	2.2%	275,485	5.516
4 Two or More Adults, Youngest Child Under 6	316,374	14.1%	2,852,049	9.015
5 Single Adult, Youngest Child 6-15	70,970	3.2%	588,597	8.294
6 Two or More Adults, Youngest Child 6-15	295,720	13.2%	4,051,427	13.700
7 Single Adult, Youngest Child 16-21	47,744	2.1%	305,533	6.399
8 Two or more Adults, Youngest Child 16-21	113,890	5.1%	1,357,663	11.921
9 Single Adult, Retired, No Children	151,711	6.8%	410,768	2.708
10 Two or More Adults, Retired, No Children	227,276	10.1%	1,399,219	6.156
<b>TOTAL</b>	<b>2,246,252</b>	<b>100.0%</b>	<b>16,966,736</b>	<b>7.553</b>

*Trips per Person in Household*

Household Life Cycle Category	Household Population	Pers/ HH	Total Trips, All Modes	Trips/ Pers
1 Single Adult, No Children	432,182	1.000	1,714,057	3.966
2 Two or More Adults, No Children	1,210,227	2.239	4,011,938	3.315
3 Single Adult, Youngest Child Under 6	178,698	3.578	275,485	1.542
4 Two or More Adults, Youngest Child Under 6	1,387,636	4.386	2,852,049	2.055
5 Single Adult, Youngest Child 6-15	189,416	2.669	588,597	3.107
6 Two or More Adults, Youngest Child 6-15	1,279,859	4.328	4,051,427	3.166
7 Single Adult, Youngest Child 16-21	105,061	2.201	305,533	2.908
8 Two or more Adults, Youngest Child 16-21	423,912	3.722	1,357,663	3.203
9 Single Adult, Retired, No Children	151,711	1.000	410,768	2.708
10 Two or More Adults, Retired, No Children	514,392	2.263	1,399,219	2.720
<b>TOTAL</b>	<b>5,873,094</b>	<b>2.615</b>	<b>16,966,736</b>	<b>2.889</b>

**Table 3.8.2**  
**1990 Regional Trips per Household by Trip Purpose by Household Life Cycle**  
**(Nationwide Personal Transportation Survey (NPTS) Categories)**

*Trips per Household (Total Modes)*

Household Life Cycle Category	<u>Home-Based . . . . Trips</u>				Non-Home	Total
	Work	Shop	Soc/Rec	School	Based	
1 Single Adult, No Children	1.243	0.739	0.381	0.096	1.507	3.966
2 Two or More Adults, No Children	2.695	1.393	0.683	0.232	2.420	7.423
3 Single Adult, Youngest Child Under 6	1.033	1.600	0.569	0.657	1.658	5.516
4 Two or More Adults, Youngest Child Under 6	2.495	2.543	0.955	0.933	2.089	9.015
5 Single Adult, Youngest Child 6-15	1.209	2.010	0.860	2.053	2.162	8.294
6 Two or More Adults, Youngest Child 6-15	2.836	3.498	1.529	2.741	3.097	13.700
7 Single Adult, Youngest Child 16-21	2.080	1.183	0.587	0.991	1.559	6.399
8 Two or more Adults, Youngest Child 16-21	3.600	2.561	1.344	1.344	3.072	11.921
9 Single Adult, Retired, No Children	0.065	1.367	0.488	0.019	0.769	2.708
10 Two or More Adults, Retired, No Children	0.853	2.457	0.994	0.076	1.777	6.156
TOTAL	1.991	1.891	0.827	0.744	2.100	7.553

*Share of Trips by Trip Purpose*

Household Life Cycle Category	<u>Home-Based . . . . Trips</u>				Non-Home	Total
	Work	Shop	Soc/Rec	School	Based	
1 Single Adult, No Children	31.3%	18.6%	9.6%	2.4%	38.0%	100.0%
2 Two or More Adults, No Children	36.3%	18.8%	9.2%	3.1%	32.6%	100.0%
3 Single Adult, Youngest Child Under 6	18.7%	29.0%	10.3%	11.9%	30.1%	100.0%
4 Two or More Adults, Youngest Child Under 6	27.7%	28.2%	10.6%	10.4%	23.2%	100.0%
5 Single Adult, Youngest Child 6-15	14.6%	24.2%	10.4%	24.7%	26.1%	100.0%
6 Two or More Adults, Youngest Child 6-15	20.7%	25.5%	11.2%	20.0%	22.6%	100.0%
7 Single Adult, Youngest Child 16-21	32.5%	18.5%	9.2%	15.5%	24.4%	100.0%
8 Two or more Adults, Youngest Child 16-21	30.2%	21.5%	11.3%	11.3%	25.8%	100.0%
9 Single Adult, Retired, No Children	2.4%	50.5%	18.0%	0.7%	28.4%	100.0%
10 Two or More Adults, Retired, No Children	13.9%	39.9%	16.1%	1.2%	28.9%	100.0%
TOTAL	26.4%	25.0%	11.0%	9.9%	27.8%	100.0%

### 3.9 Regional Trip Rates by Household Size by Vehicle Availability

This section describes household and person trip rates, by trip purpose, cross-classified by household size and vehicle availability. Five household size groups are used in this analysis (one, two, three, four, and five-or-more persons) and four vehicle availability categories are used (none, one, two, and three-or-more vehicles).

Trips per household are summarized in Table 3.9.1. Trips per person are shown in Table 3.9.2. The number of sample households, expanded households, and expanded household population is reported in Table 3.9.3.

Several cells in this cross-classification matrix have an insufficient number of household samples to be considered statistically valid. These are the zero-vehicle households with four or five-or-more persons per household categories. The trip rate information is provided for information purposes only.

The largest category in this cross-classification matrix is the two-person, two-vehicle household with 373,000 households out of 2.25 million regional households. This is followed by the one-person, one-vehicle household category with 369,000 households.

Total trips per household show increases in both dimensions of this cross-classification matrix, that is, trips per household increases with increasing number of vehicles per household and increasing number of persons per household. The one-person household with no vehicles makes an average of 2.7 trips per household per weekday. The household with five-or-more persons and three-or-more vehicles makes an average of 16.3 trips per household per weekday. This pattern of increasing trips per household is less pronounced and more varied on a trip purpose basis, with some trips per household decreasing with increasing number of vehicles per household.

Trips per person show an increase with more vehicles per household and a decrease with more persons per household. The most mobile bunch of households are the one-person households with three-or-more vehicles (0.8 percent of all households) who make 4.2 trips per average weekday. The least mobile households are the households with five-or-more persons and only one vehicle available (1.8 trips per person per weekday).



**Table 3.9.1**
**1990 Regional Trips per Household by Household Size  
by Vehicles Available per Household - Total Modes**

Household Size	Trip Purpose	Vehicles Available per Household				TOTAL
		0	1	2	3-or-more	
One Person	HBW	0.589	1.008	1.218	1.076	0.937
	HBSH	0.824	0.942	0.854	0.837	0.902
	HBSR	0.332	0.438	0.395	0.416	0.408
	HBSch	0.083	0.082	0.047	0.000	0.076
	NHB	0.896	1.445	1.297	1.844	1.315
	Total	2.724	3.914	3.811	4.174	3.639
Two Persons	HBW	1.127	1.448	2.091	2.031	1.849
	HBSH	0.978	1.714	1.517	1.753	1.567
	HBSR	0.443	0.666	0.787	0.735	0.724
	HBSch	0.574	0.303	0.131	0.123	0.205
	NHB	0.932	1.659	2.183	2.436	2.000
	Total	4.054	5.791	6.709	7.078	6.345
Three Persons	HBW	1.065	1.790	2.472	3.002	2.432
	HBSH	1.988	1.884	2.078	2.080	2.035
	HBSR	0.404	0.645	0.906	0.960	0.845
	HBSch	1.184	0.932	0.719	0.607	0.750
	NHB	1.142	2.052	2.197	2.987	2.365
	Total	5.784	7.303	8.371	9.636	8.427
Four Persons	HBW	1.252 †	2.192	2.551	3.367	2.751
	HBSH	2.138 †	2.556	3.028	2.735	2.821
	HBSR	0.394 †	0.968	1.206	1.623	1.295
	HBSch	1.531 †	1.486	1.729	1.462	1.589
	NHB	1.149 †	2.161	2.564	3.497	2.797
	Total	6.464 †	9.363	11.078	12.683	11.254
Five-or-More Persons	HBW	2.073 †	2.841	2.606	4.128	3.259
	HBSH	2.564 †	2.765	4.238	3.881	3.772
	HBSR	0.429 †	0.765	1.593	1.817	1.499
	HBSch	2.775 †	3.003	2.712	2.843	2.815
	NHB	2.215 †	1.610	2.891	3.592	2.958
	Total	10.055 †	10.985	14.040	16.261	14.303
Total HHlds.	HBW	0.869	1.378	2.234	3.034	1.991
	HBSH	1.120	1.442	2.133	2.516	1.891
	HBSR	0.371	0.571	0.941	1.237	0.827
	HBSch	0.513	0.473	0.796	1.175	0.744
	NHB	1.015	1.620	2.261	3.069	2.100
	Total	3.889	5.484	8.366	11.030	7.553

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.

Table 3.9.2

**1990 Regional Trips per Person by Household Size  
by Vehicles Available per Household - Total Modes**

Household Size	Trip Purpose	Vehicles Available per Household				TOTAL
		0	1	2	3-or-more	
One Person	HBW	0.589	1.008	1.218	1.076	0.937
	HBSH	0.824	0.942	0.854	0.837	0.902
	HBSR	0.332	0.438	0.395	0.416	0.408
	HBSch	0.083	0.082	0.047	0.000	0.076
	NHB	0.896	1.445	1.297	1.844	1.315
	Total	2.724	3.914	3.811	4.174	3.639
Two Persons	HBW	0.563	0.724	1.046	1.016	0.924
	HBSH	0.489	0.857	0.758	0.876	0.784
	HBSR	0.222	0.333	0.394	0.367	0.362
	HBSch	0.287	0.152	0.066	0.061	0.103
	NHB	0.466	0.829	1.091	1.218	1.000
	Total	2.027	2.895	3.355	3.539	3.172
Three Persons	HBW	0.355	0.597	0.824	1.001	0.811
	HBSH	0.663	0.628	0.693	0.693	0.678
	HBSR	0.135	0.215	0.302	0.320	0.282
	HBSch	0.395	0.311	0.240	0.202	0.250
	NHB	0.381	0.684	0.732	0.996	0.788
	Total	1.928	2.434	2.790	3.212	2.809
Four Persons	HBW	0.313 †	0.548	0.638	0.842	0.688
	HBSH	0.534 †	0.639	0.757	0.684	0.705
	HBSR	0.099 †	0.242	0.301	0.406	0.324
	HBSch	0.383 †	0.371	0.432	0.366	0.397
	NHB	0.287 †	0.540	0.641	0.874	0.699
	Total	1.616 †	2.341	2.770	3.171	2.813
Five-or-More Persons	HBW	0.342 †	0.470	0.454	0.699	0.554
	HBSH	0.424 †	0.457	0.738	0.657	0.642
	HBSR	0.071 †	0.126	0.277	0.307	0.255
	HBSch	0.459 †	0.496	0.472	0.481	0.479
	NHB	0.366 †	0.266	0.503	0.608	0.503
	Total	1.661 †	1.815	2.445	2.752	2.434
Total HHlds.	HBW	0.474	0.714	0.778	0.848	0.761
	HBSH	0.611	0.747	0.743	0.704	0.723
	HBSR	0.203	0.296	0.327	0.346	0.316
	HBSch	0.280	0.245	0.277	0.329	0.285
	NHB	0.554	0.839	0.787	0.858	0.803
	Total	2.123	2.841	2.912	3.085	2.889

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.

**Table 3.9.3**

**1990 Households and Household Population  
by Household Size by Vehicles Available per Household  
1990 MTC Household Travel Survey — Single Day Sample**

Household Size		Vehicles Available per Household				TOTAL
		0	1	2	3-or-more	
One Person	Sample HH	359	1,601	295	91	2,346
	Expanded HH	133,369	369,440	63,394	17,689	583,892
	Expanded HH Pop	133,369	369,440	63,394	17,689	583,892
Two Persons	Sample HH	148	809	1,784	618	3,359
	Expanded HH	50,900	186,866	373,242	114,913	725,921
	Expanded HH Pop	101,800	373,732	746,484	229,826	1,451,842
Three Persons	Sample HH	50	308	698	564	1,620
	Expanded HH	18,758	75,311	162,670	118,684	375,423
	Expanded HH Pop	56,274	225,933	488,010	356,052	1,126,269
Four Persons	Sample HH	29	172	583	522	1,306
	Expanded HH	10,575	46,043	141,767	113,800	312,185
	Expanded HH Pop	42,300	184,172	567,068	455,200	1,248,740
Five-+ Persons	Sample HH	27	87	278	336	728
	Expanded HH	13,664	37,585	91,917	105,664	248,830
	Expanded HH Pop	82,709	227,450	527,828	624,364	1,462,351
Total Households	Sample HH	613	2,977	3,638	2,131	9,359
	Expanded HH	227,266	715,245	832,990	470,750	2,246,251
	Expanded HH Pop	416,452	1,380,727	2,392,784	1,683,131	5,873,094



### **3.10 Regional Trip Rates by Household Size by Workers in Household**

This section describes household and person trip rates, by trip purpose, cross-classified by household size and workers in the household. Five household size groups are used in this analysis (one, two, three, four, and five-or-more persons) and four workers in household categories are used (none, one, two, and three-or-more workers).

Trips per household are summarized in Table 3.10.1. Trips per person are shown in Table 3.10.2. The number of sample households, expanded households, and expanded household population is reported in Table 3.10.3.

Several cells in this cross-classification matrix have an insufficient number of household samples to be considered statistically valid. These are the zero-worker households with four or five-or-more persons per household categories. The trip rate information is provided for information purposes only. Three other categories are not included in the cross-classification due to impossible combinations: two workers in a one-person household; and three-or-more workers in a one-person or a two-person household.

The largest category in this cross-classification matrix is the one-person, one-worker household with 391,000 households out of 2.25 million regional households. This is followed by the two-person, two-vehicle household category with 363,000 households.

Total trips per household show increases in both dimensions of this cross-classification matrix, that is, trips per household increases with increasing number of workers per household and increasing number of persons per household. The one-person household with no workers makes an average of 2.8 trips per household per weekday. The household with five-or-more persons and three-or-more workers makes an average of 15.1 trips per household per weekday.

Trips per person show an increase with more workers per household and a decrease with more persons per household. The most mobile households are the one-person, one-vehicle households who make 4.1 trips per average weekday. The least mobile households (on a per capita basis) are the households with five-or-more persons and only one vehicle available (2.3 trips per person per weekday).

**Table 3.10.1**

**1990 Regional Trips per Household by Household Size  
by Workers per Household - Total Modes**

Household Size	Trip Purpose	Workers per Household				TOTAL
		0	1	2	3-or-more	
One Person	HBW	0.073	1.365	NA	NA	0.937
	HBSH	1.332	0.689	NA	NA	0.902
	HBSR	0.473	0.376	NA	NA	0.408
	HBSch	0.112	0.058	NA	NA	0.076
	NHB	0.812	1.564	NA	NA	1.315
	Total	2.803	4.053	NA	NA	3.639
Two Persons	HBW	0.113	1.511	2.775	NA	1.849
	HBSH	2.388	1.680	1.156	NA	1.567
	HBSR	0.996	0.730	0.605	NA	0.724
	HBSch	0.221	0.348	0.116	NA	0.205
	NHB	1.393	1.861	2.337	NA	2.000
	Total	5.111	6.130	6.989	NA	6.345
Three Persons	HBW	0.347	1.576	2.738	4.197	2.432
	HBSH	2.550	2.388	1.910	1.468	2.035
	HBSR	0.747	0.910	0.823	0.834	0.846
	HBSch	1.048	1.002	0.655	0.395	0.750
	NHB	1.251	2.157	2.514	2.859	2.365
	Total	5.944	8.032	8.640	9.754	8.427
Four Persons	HBW	0.272 †	1.575	2.983	4.682	2.751
	HBSH	3.284 †	3.283	2.687	2.348	2.821
	HBSR	1.115 †	1.409	1.184	1.510	1.295
	HBSch	1.999 †	1.611	1.719	1.025	1.589
	NHB	1.632 †	2.321	2.867	3.699	2.797
	Total	8.302 †	10.200	11.440	13.263	11.254
Five-or-More Persons	HBW	0.584 †	1.819	3.160	5.443	3.259
	HBSH	3.644 †	4.481	3.940	2.838	3.772
	HBSR	0.792 †	1.548	1.505	1.595	1.499
	HBSch	3.015 †	2.909	3.223	2.076	2.815
	NHB	1.823 †	2.743	3.146	3.146	2.958
	Total	9.858 †	13.499	14.975	15.098	14.303
Total HHlds.	HBW	0.133	1.484	2.856	4.813	1.991
	HBSH	1.972	1.702	1.976	2.246	1.891
	HBSR	0.725	0.725	0.882	1.320	0.827
	HBSch	0.394	0.627	0.944	1.219	0.744
	NHB	1.130	1.880	2.583	3.213	2.100
	Total	4.354	6.418	9.242	12.811	7.553

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.

Table 3.10.2

**1990 Regional Trips per Person by Household Size  
by Workers per Household - Total Modes**

Household Size	Trip Purpose	Workers per Household				TOTAL
		0	1	2	3-or-more	
One Person	HBW	0.073	1.365	NA	NA	0.937
	HBSH	1.332	0.689	NA	NA	0.902
	HBSR	0.473	0.376	NA	NA	0.408
	HBSch	0.112	0.058	NA	NA	0.076
	NHB	0.812	1.564	NA	NA	1.315
	Total	2.803	4.053	NA	NA	3.639
Two Persons	HBW	0.057	0.756	1.387	NA	0.924
	HBSH	1.194	0.840	0.578	NA	0.784
	HBSR	0.498	0.365	0.303	NA	0.362
	HBSch	0.111	0.174	0.058	NA	0.103
	NHB	0.697	0.930	1.168	NA	1.000
	Total	2.555	3.065	3.495	NA	3.172
Three Persons	HBW	0.116	0.525	0.913	1.399	0.811
	HBSH	0.850	0.796	0.637	0.489	0.678
	HBSR	0.249	0.303	0.274	0.278	0.282
	HBSch	0.349	0.334	0.218	0.132	0.250
	NHB	0.417	0.719	0.838	0.953	0.788
	Total	1.981	2.677	2.880	3.251	2.809
Four Persons	HBW	0.068 †	0.394	0.746	1.170	0.688
	HBSH	0.821 †	0.821	0.672	0.587	0.705
	HBSR	0.279 †	0.352	0.296	0.377	0.324
	HBSch	0.500 †	0.403	0.430	0.256	0.397
	NHB	0.408 †	0.580	0.717	0.925	0.699
	Total	2.075 †	2.550	2.860	3.316	2.813
Five-or-More Persons	HBW	0.096 †	0.316	0.549	0.887	0.554
	HBSH	0.600 †	0.779	0.684	0.463	0.642
	HBSR	0.130 †	0.269	0.261	0.260	0.255
	HBSch	0.497 †	0.506	0.560	0.338	0.479
	NHB	0.300 †	0.477	0.546	0.513	0.503
	Total	1.624 †	2.347	2.601	2.461	2.434
Total HHlds.	HBW	0.074	0.684	0.924	1.073	0.761
	HBSH	1.088	0.785	0.640	0.501	0.723
	HBSR	0.400	0.334	0.285	0.294	0.316
	HBSch	0.217	0.289	0.305	0.272	0.285
	NHB	0.625	0.867	0.836	0.716	0.803
	Total	2.402	2.958	2.991	2.856	2.889

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.



**Table 3.10.3**

**1990 Households and Household Population  
by Household Size by Workers per Household  
1990 MTC Household Travel Survey — Single Day Sample**

Household Size		Workers per Household				TOTAL
		0	1	2	3-or-more	
One Person	Sample HH	745	1,601	0	0	2,346
	Expanded HH	193,361	390,532	0	0	583,893
	Expanded HH Pop	193,361	390,532	0	0	583,893
Two Persons	Sample HH	705	974	1,680	0	3,359
	Expanded HH	152,881	210,101	362,940	0	725,922
	Expanded HH Pop	305,762	420,202	725,880	0	1,451,844
Three Persons	Sample HH	100	497	767	256	1,620
	Expanded HH	27,725	114,348	175,478	57,871	375,422
	Expanded HH Pop	83,175	343,044	526,434	173,613	1,126,266
Four Persons	Sample HH	48	350	683	225	1,306
	Expanded HH	14,922	84,528	161,441	51,293	312,184
	Expanded HH Pop	59,688	338,112	645,764	205,172	1,248,736
Five-+ Persons	Sample HH	29	200	298	201	728
	Expanded HH	14,764	67,764	99,079	67,223	248,830
	Expanded HH Pop	89,642	389,815	570,509	412,389	1,462,355
Total Households	Sample HH	1,627	3,622	3,428	682	9,359
	Expanded HH	403,653	867,273	798,938	176,387	2,246,251
	Expanded HH Pop	731,628	1,881,705	2,468,587	791,174	5,873,094

### **3.11 Regional Trip Rates by Workers in Household by Vehicles Available**

This section describes household and person trip rates, by trip purpose, cross-classified by workers in the household and by vehicle available. Four workers in household groups are used in this analysis (none, one, two, and three-or-more workers) and four vehicle categories are used (none, one, two, and three-or-more vehicles). This is the third and final set of two-way cross-classification analyses using household size, vehicles available, and workers in household categories.

Trips per household are summarized in Table 3.11.1. Trips per person are shown in Table 3.11.2. The number of sample households, expanded households, and expanded household population is reported in Table 3.11.3.

The cell with three-or-more workers and zero-vehicles available in this cross-classification matrix has an insufficient number of household samples to be considered statistically valid. Trip rate information is provided for information purposes only.

The largest category in this cross-classification matrix is the two-worker, two-vehicle household with 444,000 households out of 2.25 million regional households. This is followed by the one-worker, one-vehicle household category with 411,000 households.

Total trips per household show increases in both dimensions of this cross-classification matrix, that is, trips per household increases with increasing number of workers per household and increasing number of vehicles per household. The non-working household with no vehicles makes an average of 3.0 trips per household per weekday. The household with three-or-more workers and three-or-more vehicles makes an average of 13.7 trips per household per weekday.

Trips per person tend to increase with more workers and more vehicles per household, though there are several exceptions to this tendency. In terms of trips per capita, the most mobile households are the two-worker households with three-or-more vehicles (3.1 trips per person per weekday). The least mobile households (on a per capita basis) are the non-working households with no vehicles available (1.7 trips per person per weekday).

**Table 3.11.1**

**1990 Regional Trips per Household by Workers per Household  
by Vehicles Available per Household - Total Modes**

Workers/ Household	Trip Purpose	Vehicles Available per Household				TOTAL
		0	1	2	3-or-more	
No Workers	HBW	0.105	0.089	0.225	0.243	0.133
	HBSH	1.266	1.969	2.627	2.959	1.972
	HBSR	0.375	0.707	1.083	1.215	0.725
	HBSch	0.517	0.326	0.373	0.361	0.394
	NHB	0.713	1.088	1.513	1.997	1.130
	Total	2.975	4.180	5.820	6.775	4.354
One Worker	HBW	1.303	1.417	1.598	1.609	1.484
	HBSH	0.814	1.174	2.375	2.813	1.702
	HBSR	0.329	0.520	1.002	1.153	0.725
	HBSch	0.298	0.453	0.821	1.093	0.627
	NHB	1.196	1.663	2.123	2.688	1.880
	Total	3.940	5.227	7.920	9.356	6.418
Two Workers	HBW	2.809	2.700	2.831	2.994	2.856
	HBSH	1.172	1.698	1.880	2.385	1.976
	HBSR	0.342	0.587	0.870	1.106	0.882
	HBSch	0.889	0.681	0.842	1.292	0.944
	NHB	1.426	2.241	2.493	3.042	2.583
	Total	6.637	7.907	8.915	10.820	9.242
Three-or- More Workers	HBW	3.782 †	4.812	4.743	4.880	4.813
	HBSH	2.599 †	0.770	2.254	2.411	2.246
	HBSR	1.039 †	0.270	1.012	1.548	1.320
	HBSch	2.472 †	1.100	1.127	1.200	1.219
	NHB	3.178 †	1.696	2.282	3.657	3.213
	Total	13.070 †	8.647	11.417	13.697	12.811
Total HHlds.	HBW	0.869	1.378	2.234	3.034	1.991
	HBSH	1.120	1.442	2.133	2.516	1.891
	HBSR	0.371	0.571	0.941	1.237	0.827
	HBSch	0.513	0.473	0.796	1.175	0.744
	NHB	1.015	1.620	2.261	3.069	2.100
	Total	3.889	5.484	8.366	11.030	7.553

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.



**Table 3.11.2****1990 Regional Trips per Person by Workers per Household  
by Vehicles Available per Household - Total Modes**

Workers/ Household	Trip Purpose	Vehicles Available per Household				TOTAL
		0	1	2	3-or-more	
No Workers	HBW	0.059	0.055	0.108	0.105	0.074
	HBSH	0.708	1.220	1.260	1.277	1.088
	HBSR	0.210	0.438	0.520	0.524	0.400
	HBSch	0.289	0.202	0.179	0.156	0.217
	NHB	0.398	0.674	0.726	0.862	0.623
	Total	1.663	2.589	2.792	2.922	2.402
One Worker	HBW	0.874	0.837	0.571	0.533	0.684
	HBSH	0.546	0.694	0.849	0.932	0.785
	HBSR	0.221	0.307	0.358	0.382	0.334
	HBSch	0.200	0.268	0.293	0.362	0.289
	NHB	0.803	0.983	0.759	0.890	0.867
	Total	2.644	3.090	2.831	3.099	2.958
Two Workers	HBW	1.098	0.932	0.950	0.867	0.924
	HBSH	0.458	0.586	0.631	0.690	0.640
	HBSR	0.133	0.203	0.292	0.320	0.285
	HBSch	0.347	0.235	0.282	0.374	0.305
	NHB	0.557	0.774	0.836	0.881	0.836
	Total	2.593	2.730	2.990	3.132	2.991
Three-or- More Workers	HBW	0.680 †	1.052	1.149	1.079	1.073
	HBSH	0.467 †	0.168	0.546	0.533	0.501
	HBSR	0.187 †	0.059	0.245	0.342	0.294
	HBSch	0.444 †	0.240	0.273	0.265	0.272
	NHB	0.571 †	0.371	0.553	0.809	0.716
	Total	2.350 †	1.891	2.765	3.029	2.856
Total HHlds.	HBW	0.474	0.714	0.778	0.848	0.761
	HBSH	0.611	0.747	0.743	0.704	0.723
	HBSR	0.203	0.296	0.327	0.346	0.316
	HBSch	0.280	0.245	0.277	0.329	0.285
	NHB	0.554	0.839	0.787	0.858	0.803
	Total	2.123	2.841	2.912	3.085	2.889

† Trip rates based on less than 50 sample households and are not statistically significant. Reported for information purposes only.

**Table 3.11.3****1990 Households and Household Population****by Workers per Household by Vehicles Available per Household****1990 MTC Household Travel Survey — Single Day Sample**

Workers/ Household		Vehicle Available per Household				TOTAL
		0	1	2	3-or-more	
No Workers	Sample HH	302	757	431	137	1,627
	Expanded HH	117,117	172,308	89,044	25,184	403,653
	Expanded HH Pop	209,485	278,156	185,610	58,380	731,631
One Worker	Sample HH	238	1,720	1,170	494	3,622
	Expanded HH	86,119	411,342	266,898	102,913	867,272
	Expanded HH Pop	128,324	695,891	746,749	310,739	1,881,703
Two Workers	Sample HH	58	447	1,911	1,012	3,428
	Expanded HH	18,325	116,402	443,706	220,505	798,938
	Expanded HH Pop	46,907	337,178	1,322,769	761,733	2,468,587
Three-+ Workers	Sample HH	15	53	126	488	682
	Expanded HH	5,707	15,195	33,341	122,145	176,388
	Expanded HH Pop	31,739	69,502	137,655	552,278	791,174
Total Households	Sample HH	613	2,977	3,638	2,131	9,359
	Expanded HH	227,268	715,247	832,989	470,747	2,246,251
	Expanded HH Pop	416,455	1,380,727	2,392,783	1,683,130	5,873,095

### 3.12 Regional Trip Rates by Density-Based Area Type

This last section on trip rates reports on household and person trip rates stratified by density-based area type. There are six "area type" categories used in the Bay Area, which are based on a combination of net employment and net population density. The "area type density" is calculated as follows:

$$\text{Area Type Density} = (\text{Total Population} + 2.5 * \text{Total Employment}) / \text{Developed Acres}$$

Characteristics of the Bay Area by these six area types is shown below:

Area Type	Area Type Density	Total Acres	Percent of Total Acres	Total Employment
Core	> 300	1,055	0.0%	269,817
Central Business Dist.	100 - 300	16,476	0.4%	331,881
Urban Business Dist.	55 - 100	32,182	0.7%	470,331
Urban	30 - 55	118,017	2.7%	742,109
Suburban	6 - 30	2,846,844	64.2%	1,213,578
Rural	< 6	1,422,187	32.1%	46,018
TOTAL		4,436,761	100.0%	3,073,734

The regional "core" includes the heart of downtown San Francisco and Oakland, and account for 8.8 percent of the region's total employment in 1990. The "central business district" encompasses the ring around the core downtown in San Francisco and Oakland, and the downtown areas of Berkeley, San Jose and Concord. The "urban business district" includes the ring around San Francisco, Oakland, Daly City, Walnut Creek, Santa Rosa, Palo Alto, Hayward, San Jose, and the "Golden Triangle" area of "Silicon Valley" in Santa Clara County. The term "urban" encompasses the remainder of San Francisco, most of Oakland, Berkeley, and Silicon Valley. The "suburban" area of the Bay Area is the largest area type, comprising 64.2 percent of the land area and 39.5 percent of the total employment in the region. "Rural" areas can be found in all counties except San Francisco. A wall map showing these area types is on display in MTC offices. Additionally, MTC's computerized highway networks use the "area type" designation in traffic analysis, and on-screen viewing of the Bay Area street and road network is the best way to understand the geographic extent of the different density-based area types used in MTC's planning analyses.



The regional distribution of households and household population by the six area types is shown below:

Area Type	Households	Percent of Total HHlds.	Household Population	Mean HHld. Size
Core	24,195	1.1%	43,237	1.787
Central Business Dist.	81,235	3.6%	164,577	2.026
Urban Business Dist.	155,012	6.9%	343,533	2.216
Urban	421,435	18.8%	1,074,938	2.551
Suburban	1,486,945	66.2%	4,046,403	2.721
Rural	77,429	3.4%	200,406	2.588
TOTAL	2,246,251	100.0%	5,873,094	2.615

Note that the Bay Area suburban areas account for about two-thirds of the households and population in the region. Note also that mean household size decreases with increasing density, except for rural areas which show slightly lower average household sizes than suburban areas.

Appendix Tables 3.12.1A (trips per household) and 3.12.2A (trips per person) show detailed trip rates by area type by trip purpose and travel mode. Three additional tables are included that show home-based work and total trip transit shares, walk shares, and bicycle shares by area type.

Trips per household decrease with increased density (Table 3.12.1). The trips per household for residents of the regional core area average 4.0 trips per weekday; in suburban areas, 8.0 trips per weekday; and in rural areas, 9.1 trips per weekday. Home-based work trips also increase with lower densities, rising from 1.2 home-based work trips per household for residents of the regional core to 2.1 home-based work trips per suburban household. Rural households tend to have lower home-based work trip rates (1.7) than residents of other areas (due to either higher tendency to work at home or higher number of retired households).

The transit shares for total trips show a high correlation with density-based area types. **Transit shares in the regional "core" area are 30.0 percent of total trips;** for suburban areas, transit shares are 3.4 percent of total trips. For home-based work trips, transit shares peak at 38.1 percent of trips made by residents of the regional

“core” and average at 5.9 percent for residents of suburban areas and 2.6 percent of rural areas. Note that there is a high degree of correlation between area type and other, more behavioral characteristics of households, namely, household size, workers per household and household income. The intention here is show the correlation between density and transit shares, not to imply causality in terms of how higher density neighborhoods “cause” more people to ride transit. A thorough statistical analysis is needed to distinguish the importance of density relative to other household characteristics (e.g., household size, income, workers per household) in terms of causing people to ride transit.

Walk share of total trips is also highly and positively correlated with density (Table 3.12.2). The walk share of total trips in the regional core of the Bay Area is 34.8 percent; for suburban areas, 7.8 percent of all trips are by walk. Home-based work walk shares range from a high of 29.0 percent in the regional core to 1.5 percent for residents of rural areas.

Bicycle share of total trips also appears to be positively correlated with density (Table 3.12.3). Bicycle share for residents of regional core neighborhoods is 4.0 percent of total trips; for residents of suburban areas, 1.4 percent. Residents of “central business districts” show a low tendency to use bicycles, at 0.8 percent of all trips, though residents of the next lower density group, “urban business district,” show a higher bicycle share at 2.7 percent of total trips.

**Table 3.12.1****1990 Regional Transit Share for Trips per Household by Area Type**

Area Type	Home-Based Work Trips / HH			Total Trips / HH		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
Core	0.448	1.175	38.1%	1.210	4.038	30.0%
Central Bus. Distr.	0.551	1.671	33.0%	1.468	5.837	25.1%
Urban Bus. Distr.	0.459	1.910	24.0%	1.098	6.495	16.9%
Urban	0.330	1.971	16.7%	0.807	6.729	12.0%
Suburban	0.121	2.051	5.9%	0.272	7.966	3.4%
Rural	0.044	1.688	2.6%	0.169	9.125	1.9%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%



**Table 3.12.2****1990 Regional Walk Share for Trips per Household by Area Type**

Area Type	Home-Based Work Trips / HH			Total Trips / HH		
	Walk	All Modes	% Walk	Walk	All Modes	% Walk
Core	0.341	1.175	29.0%	1.404	4.038	34.8%
Central Bus. Distr.	0.171	1.671	10.2%	1.555	5.837	26.6%
Urban Bus. Distr.	0.115	1.910	6.0%	1.155	6.495	17.8%
Urban	0.073	1.971	3.7%	0.863	6.729	12.8%
Suburban	0.043	2.051	2.1%	0.622	7.966	7.8%
Rural	0.025	1.688	1.5%	0.676	9.125	7.4%
Total	0.061	1.991	3.1%	0.748	7.553	9.9%

**Table 3.12.3****1990 Regional Bicycle Share for Trips per Household by Area Type**

Area Type	Home-Based Work Trips / HH			Total Trips / HH		
	Bicycle	All Modes	% Bicycle	Bicycle	All Modes	% Bicycle
Core	0.062	1.175	5.3%	0.160	4.038	4.0%
Central Bus. Distr.	0.038	1.671	2.3%	0.049	5.837	0.8%
Urban Bus. Distr.	0.057	1.910	3.0%	0.178	6.495	2.7%
Urban	0.043	1.971	2.2%	0.117	6.729	1.7%
Suburban	0.017	2.051	0.8%	0.112	7.966	1.4%
Rural	0.000	1.688	0.0%	0.046	9.125	0.5%
Total	0.025	1.991	1.3%	0.113	7.553	1.5%

## 4.0 Weekday 1990 Travel by Personal Characteristics

Section 4.0 of Working Paper #4 discusses travel patterns based on the personal characteristics of individual travelers. The previous section dealt with travel patterns based on household characteristics such as income, household size, workers in the household, vehicles available, etc. This section describes travel based on personal characteristics such as age, gender, employment status, drivers license status, and disability status.

### 4.1 Travel by Age of Person

This subsection reports on trips per person by age of the survey respondent. Data is taken from the weighted, expanded 1990 travel survey "single day" sample.

Trips per person and share of trips by trip purpose by detailed age categories is shown in Table 4.1.1. Trips per person by detailed age is charted in Figure 4.1.1. Note the parabolic shape of the trips per person distribution in this chart, peaking at 4.31 trips per person for 41-year-olds, and showing less trips per capita for younger as well as older persons. The least mobile group, on a trips per capita basis, are Bay Area residents 75 years and over with just 2.18 trips per person per weekday.

The cumulative frequency distribution of trips by trip purpose share by detailed age category is charted in Figure 4.1.2. This chart illustrates the high share of home-based school trips made by persons age 5 to 18; the high share of home-based work trips made by persons age 22 through 65; and the high share of home-based shop (other) trips made by persons age 65 and over. The transitional years between the ages of 18 and 22 show a dramatic changeover from a predominance of home-based school trips to home-based work trips.

Home-based social/recreation trips tend to have the highest shares for the younger (less than 20 years) and the older (greater than 64 years) residents. Non-home-based trip share of total trips tends to increase with age. The share of home-based school trips of total trips declines rapidly after persons reach their early 20s. Home-based work trip share of total trips peaks at 40.0 percent of all trips made by 24-year-olds.

The detailed age categories presented in Table 4.1.1 are collapsed into eight categories in Table 4.1.2. This helps in comprehending general person trip rate and trip purpose share patterns by age group. Trips per person range from a low of 2.48 trips for persons age 65 and over to a high of 3.74 trips for persons in their 40s. Children



age 5 to 17 are the second least “mobile” group at only 2.60 trips per person per weekday. The second highest mobile group are 30-year-olds, averaging 3.56 trips per person per weekday.

Trip purpose share data is presented in Table 4.1.2 and Figure 4.1.3. Home-based work share of total trips range from a low of 2.4 percent of trips made by children age 5 to 17 to a high of 37.2 percent of trips made by residents age 23 to 29. Home-based school share of total trips decreases with increasing age group, peaking at 46.9 percent of the trips made by children age 5 to 17, and less than one percent of the trips made by residents age 60 and over.

The home-based shop share of total trips tends to increase with increasing age. Only 18.4 percent of the trips for children age 5 to 17 are home-based shop trips contrasting with 47.2 percent of the trips made by residents age 65 and over. Home-based social/recreation trip share of total trips is highest for the 65 and over category, at 16.9 percent; and lowest for persons age 40 to 49, at just 8.6 percent of all trips.

Non-home-based share of total trips also tends to increase with increasing age, up to the 40s. As people get older than 50, non-home-based share of total trips tends to decrease.

Modal share for home-based work and total trips by these eight age groups are shown in Table 4.1.3. Walk mode shares for total trips are highest for the very young (19.0 percent) and the eldest group (12.5 percent). Walk mode shares are the lowest for residents age 40 to 49 (6.9 percent). Bicycle mode shares for total trips are highest for the youngest group (4.2 percent) and lowest for the eldest group (0.2 percent). Transit mode shares are highest for 18-to-22-year-old residents (8.6 percent) and lowest for 60-to-64-year-old residents (4.9 percent). Vehicle driver shares are highest for the 40-to-49-year-old residents (78.7 percent) and lowest for the youngest group (8.5 percent).

Table 4.1.1

## Average Trips per Person and Trip Purpose Share by Age of Trip Maker

Age	Average Total Trips/Person	Share of Trips by Trip Purpose				
		HBW	HBSH	HBSR	HBSK	NHB
5	2.72	0.0%	35.2%	13.5%	27.8%	23.5%
6	2.99	0.2%	26.8%	12.8%	41.4%	18.8%
7	2.81	0.0%	22.8%	13.4%	42.5%	21.3%
8	2.51	0.7%	15.9%	16.6%	49.7%	17.1%
9	2.66	0.8%	18.3%	14.0%	47.2%	19.8%
10	2.71	0.3%	21.7%	15.7%	44.1%	18.3%
11	2.91	1.1%	15.4%	18.1%	45.9%	19.5%
12	2.68	1.7%	13.7%	15.8%	52.8%	16.0%
13	2.74	1.6%	17.3%	12.8%	50.4%	17.9%
14	2.75	1.8%	12.1%	14.6%	53.4%	18.2%
15	2.72	3.7%	11.0%	15.9%	49.9%	19.4%
16	3.13	6.4%	15.9%	13.8%	46.6%	17.3%
17	3.30	9.6%	15.9%	15.2%	38.8%	20.4%
18	3.21	19.1%	18.4%	11.5%	29.4%	21.6%
19	3.15	26.5%	17.7%	14.0%	16.6%	25.3%
20	3.09	28.9%	17.9%	12.2%	16.6%	24.4%
21	3.09	30.5%	19.4%	12.3%	13.7%	24.1%
22	3.03	34.7%	19.3%	10.0%	11.9%	24.2%
23	2.91	36.2%	17.2%	12.4%	9.7%	24.5%
24	3.20	40.0%	19.6%	11.7%	5.4%	23.4%
25	3.00	37.8%	19.8%	10.3%	5.4%	26.7%
26	3.14	36.8%	18.0%	10.1%	5.4%	29.8%
27	3.54	34.5%	18.9%	11.6%	3.8%	31.2%
28	3.20	37.9%	20.0%	10.4%	3.1%	28.6%
29	3.22	39.9%	20.3%	8.9%	2.8%	28.1%
30	3.35	33.6%	22.2%	9.2%	2.5%	32.5%
31	3.59	32.5%	25.5%	11.0%	2.3%	28.7%
32	3.58	34.0%	23.5%	10.5%	2.5%	29.4%
33	3.70	33.8%	24.9%	9.2%	2.8%	29.2%
34	3.66	34.5%	21.7%	11.2%	2.1%	30.5%
35	3.69	31.3%	29.8%	9.7%	2.1%	27.2%
36	3.62	34.1%	23.6%	9.1%	2.0%	31.1%
37	3.94	30.6%	26.8%	9.4%	1.5%	31.8%
38	3.56	31.6%	27.7%	10.4%	2.1%	28.2%
39	3.86	31.6%	24.4%	10.5%	1.7%	31.7%
40	3.67	33.3%	24.6%	9.3%	1.4%	31.4%

Table 4.1.1 (continued)

## Average Trips per Person and Trip Purpose Share by Age of Trip Maker

Age	Average Total Trips/Person	Share of Trips by Trip Purpose				
		HBW	HBSH	HBSR	HBSK	NHB
41	4.31	29.2%	28.1%	10.4%	1.4%	30.8%
42	3.97	32.6%	25.0%	8.8%	1.0%	32.5%
43	3.75	34.5%	21.8%	7.4%	2.4%	34.0%
44	4.07	29.4%	23.5%	10.8%	1.6%	34.6%
45	3.57	35.4%	24.2%	8.0%	1.9%	30.6%
46	3.90	33.4%	23.0%	8.7%	0.7%	34.2%
47	4.03	32.0%	21.7%	8.9%	1.2%	36.1%
48	3.75	29.9%	22.4%	7.9%	1.4%	38.5%
49	3.46	33.7%	25.5%	8.6%	0.7%	31.4%
50	3.58	31.8%	25.8%	9.8%	1.2%	31.5%
51	3.38	33.0%	21.7%	12.1%	2.3%	31.0%
52	3.44	33.4%	22.8%	8.9%	0.9%	34.1%
53	3.86	29.4%	24.0%	10.1%	0.5%	36.1%
54	3.65	30.3%	25.8%	9.5%	0.4%	34.0%
55	3.72	30.8%	22.6%	9.3%	0.6%	36.6%
56	3.44	31.6%	23.8%	10.6%	1.2%	32.9%
57	3.55	28.2%	28.4%	9.3%	0.7%	33.5%
58	2.97	32.7%	27.5%	10.1%	1.8%	27.9%
59	2.91	25.0%	31.4%	11.5%	1.1%	31.0%
60	3.08	23.2%	32.0%	11.9%	1.0%	31.9%
61	2.84	24.4%	34.2%	6.2%	1.0%	34.2%
62	3.17	18.2%	39.5%	13.4%	0.3%	28.7%
63	3.16	20.5%	37.6%	11.6%	0.0%	30.3%
64	3.12	14.5%	39.5%	16.9%	0.0%	29.2%
65	2.77	10.1%	44.1%	16.8%	0.4%	28.7%
66	2.63	13.3%	44.6%	15.5%	0.6%	25.9%
67	3.10	7.0%	43.7%	16.7%	0.5%	32.2%
68	3.33	8.0%	44.0%	20.6%	0.5%	26.8%
69	2.72	7.7%	50.4%	14.8%	0.6%	26.5%
70	2.64	7.3%	46.2%	15.1%	0.7%	30.6%
71	2.60	10.5%	47.0%	13.5%	0.0%	29.0%
72	2.76	6.5%	48.6%	17.4%	0.0%	27.5%
73	3.02	7.4%	45.7%	18.7%	0.0%	28.3%
74	3.22	6.0%	43.8%	14.8%	1.1%	34.3%
75	2.18	3.1%	49.8%	16.2%	1.2%	29.7%



**Figure 4.1.1**  
**Average Total Trips per Person by Age of Trip Maker**

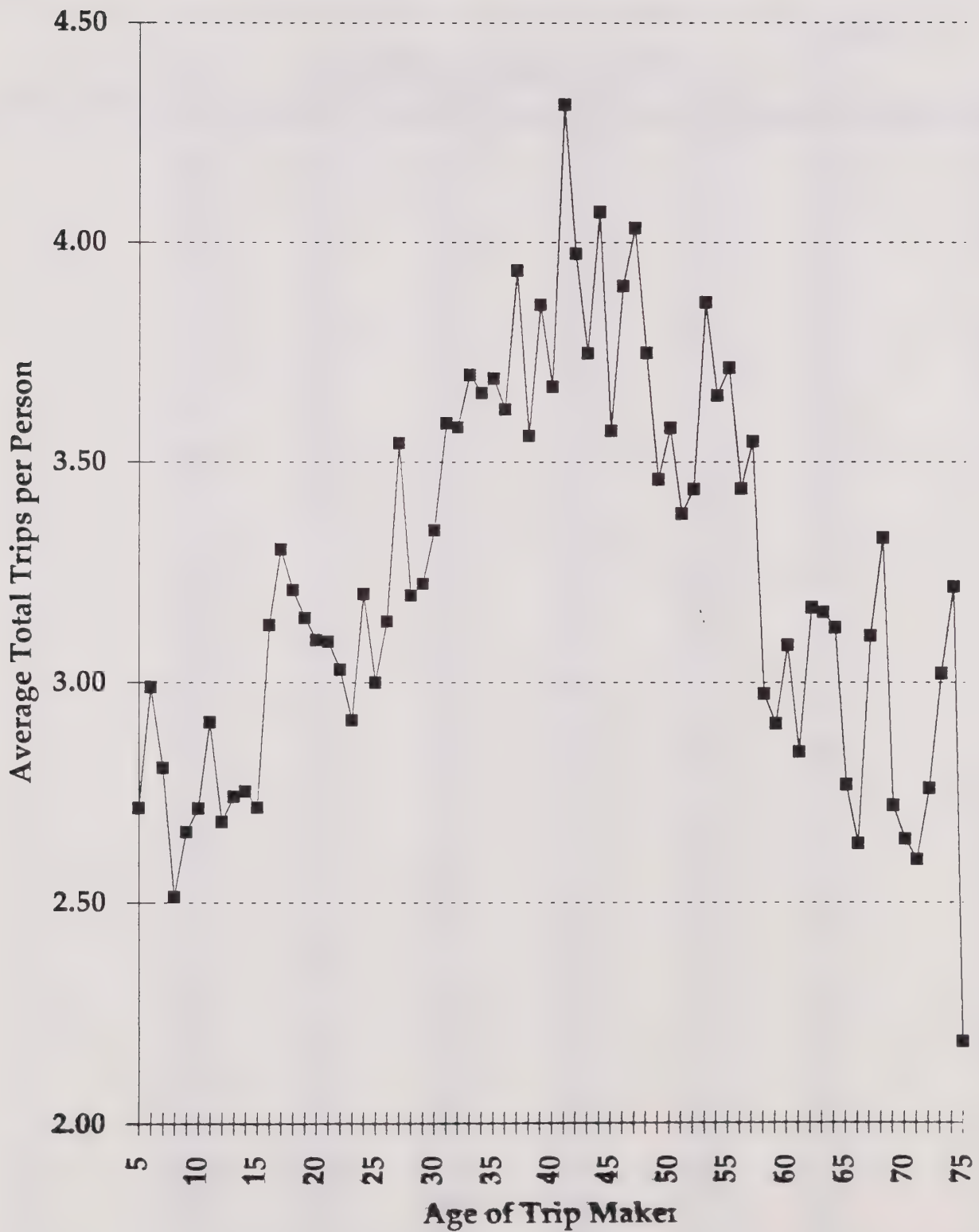
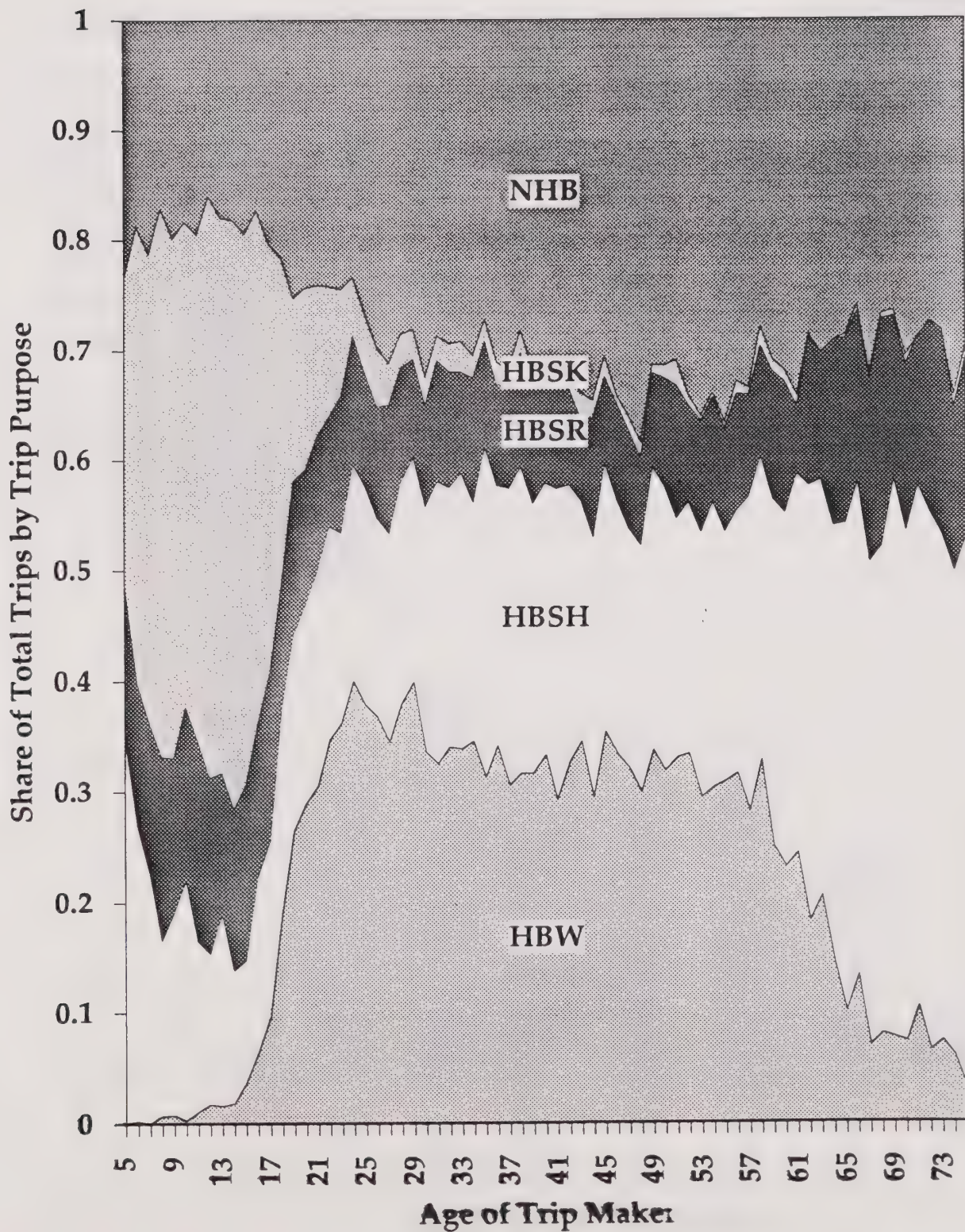


Figure 4.1.2  
Share of Trips by Trip Purpose by Age of Trip Maker

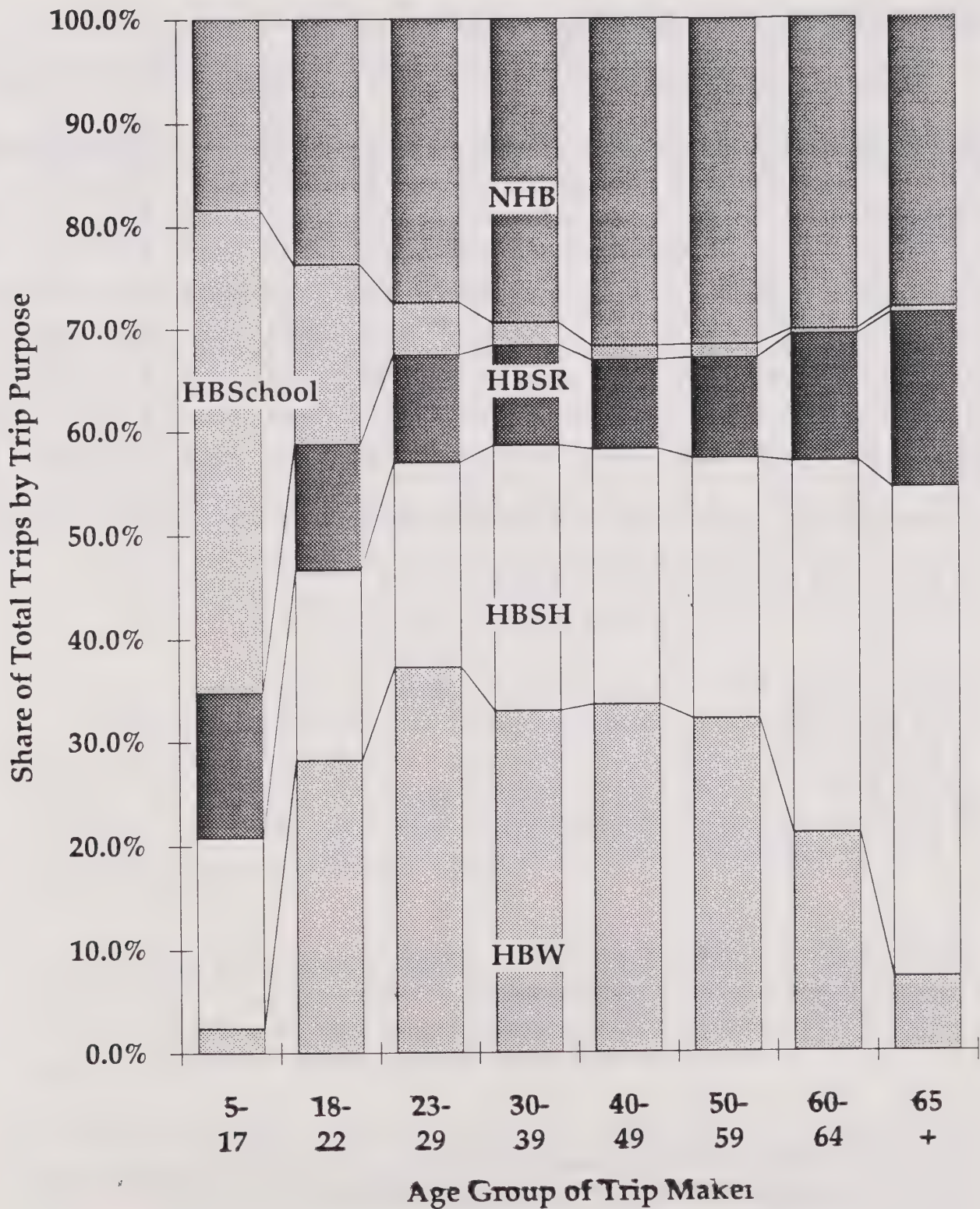


**Table 4.1.2****Average Trips per Person and Trip Purpose Share by Age Group**

Age Group	Average Total Trips/Person	Share of Trips by Trip Purpose				
		HBW	HBSH	HBSR	HBSK	NHB
5-17	2.602	2.4%	18.4%	13.9%	46.9%	18.4%
18-22	3.057	28.2%	18.5%	12.1%	17.5%	23.7%
23-29	3.130	37.2%	19.8%	10.4%	5.1%	27.5%
30-39	3.564	32.9%	25.7%	9.7%	2.2%	29.5%
40-49	3.743	33.5%	24.7%	8.6%	1.4%	31.8%
50-59	3.378	32.1%	25.2%	9.7%	1.3%	31.6%
60-64	2.938	21.1%	35.9%	12.3%	0.5%	30.2%
65 +	2.483	7.2%	47.2%	16.9%	0.6%	28.2%
5 - 99	3.206	26.4%	25.0%	10.9%	9.9%	27.8%



**Figure 4.1.3**  
**Share of Trips by Trip Purpose by Age Group**



**Table 4.1.3**  
**Modal Share for Work and Total Trips by Age Group**

Age Group	<u>Home-Based Work Trips</u>						<u>Total Trips</u>						School
	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Bus
5-17	34.8%	42.8%	6.8%	5.1%	10.5%	0.0%	8.5%	54.5%	6.0%	4.2%	19.0%	0.2%	7.6%
18-22	67.1%	15.1%	9.3%	2.4%	5.9%	0.1%	64.9%	15.8%	8.6%	1.8%	8.2%	0.4%	0.3%
23-29	74.8%	8.6%	10.2%	2.2%	4.0%	0.2%	69.3%	12.8%	7.4%	2.1%	8.1%	0.4%	0.0%
30-39	80.6%	6.8%	9.2%	1.2%	2.0%	0.3%	76.9%	8.0%	5.6%	1.2%	7.9%	0.3%	0.0%
40-49	80.6%	5.9%	10.8%	0.7%	1.8%	0.1%	78.7%	7.8%	5.8%	0.6%	6.9%	0.2%	0.0%
50-59	80.9%	5.1%	9.8%	0.7%	3.5%	0.0%	77.3%	7.0%	5.4%	0.6%	9.1%	0.5%	0.0%
60-64	78.3%	5.7%	11.9%	0.0%	4.1%	0.0%	74.8%	10.2%	4.9%	0.2%	9.6%	0.3%	0.0%
65 +	74.8%	3.5%	15.3%	0.0%	6.4%	0.0%	64.0%	16.6%	6.4%	0.2%	12.5%	0.4%	0.0%
5-99	77.9%	7.7%	10.0%	1.3%	3.1%	0.2%	64.3%	16.6%	6.2%	1.5%	9.9%	0.3%	1.2%



## 4.2 Travel by Age and Gender of Person

Section 4.2 of this working paper further breaks down the travel characteristics of Bay Area residents by gender as well as age group. Data as reported is from the weighted and expanded single day sample of the 1990 household travel survey.

One important measure of overall personal mobility is the share of persons reporting travel (that they made trips) on their assigned travel day. People either travel or don't travel on any given day. The share that are traveling on any given day is the "mobile share" of the population, or the ones partaking in non-home activities. The mobile share of the population, comparing the San Francisco Bay Area with the Sydney and Melbourne, Australia metropolitan areas, is shown in Table 4.2.1. The Sydney data is derived from the 1981 Sydney metropolitan area household travel survey; the Melbourne data from the 1978/79 Melbourne metropolitan area survey. (Source: Marcus R. Wigan *Australian Personal Travel Characteristics*, Australian Road Research Board Special Report No. 38, 1987).

The data for the three metropolitan areas show similar patterns. The most mobile persons are children age 5 to 11; the least mobile are persons age 65 and over. Males are typically more mobile than females, though the male/female differences are more pronounced at older age groups (i.e., 60 and over).

Overall, 83 percent of Bay Area residents reported travel on their assigned travel days. This compares to 78 percent of Sydney metropolitan area residents and 85 percent of Melbourne metropolitan area residents. In the Bay Area, 85.4 percent of males and 81.7 percent of females reported that they traveled out-of-home on their assigned travel day. This compares with 80 percent male, 76 percent female mobility in the Sydney region; and 90 percent male, 80 percent female mobility in the Melbourne region.

The least mobile group are residents age 65 and over. The Bay Area survey shows that 70.4 percent of men and just 60.3 percent of women age 65 and over partook in out-of-home activities on their assigned travel days. The Sydney and Melbourne data show similar low mobility levels for persons 65 and over.

The other characteristics of personal mobility, as used in this working paper, is the **number of trips per person by gender and age group. The total number of trips per capita and the trip purpose shares, by gender and age group, are shown in Table 4.2.2.** As shown in section 4.1, the most mobile groups (in terms of trips per capita) are



middle-age persons age 40 to 49; the least mobile, persons age 65 and over.

Trips per capita by gender of respondent shows no statistically significant difference for all persons age 5 and over. Males reported an average of 3.203 trips per person per weekday; females reported 3.209 trips per person per weekday. On an age group basis, however, females tend to be more mobile than males during the early years of life (ages 5 through 49); males tend to be more mobile than females during the latter years of life (50 years and over). It is uncertain whether any of these differences in trips per capita by age group and by gender are statistically significant, though the numerically largest difference is for persons age 65 and over, where men take an average of 2.74 trips per person and women take an average of 2.30 trips per person per weekday.

Trip purpose share by gender of traveler is shown in Table 4.2.2. The most notable difference between males and females, for all age groups combined, is for home-based work and home-based shop trips. The survey shows that 30.3 percent of all male trips and 22.6 percent of all female trips are for home-based work trip purposes. In contrast, 19.9 percent of all male trips and 29.9 percent of all female trips are for home-based shop (other) trip purposes. This reflects the higher labor force participation rate among males, and the higher likelihood of females performing the shopping and personal business chores for the average household. These male/female tendencies for work and shopping trip shares are consistent across all age groups, except for a statistically insignificant difference for work trip share for children age 5 to 17.

The last table in this section looks at modal shares for work and total trips, by gender and age group (Table 4.2.3). The survey shows that females are more likely than men to take public transit, walk, or be a passenger in a vehicle. Males are more likely to be a vehicle driver or ride a bicycle. Males' vehicle driver share for all trips is 67.5 percent; females, 61.3 percent. Males' vehicle passenger share for all trips is 13.6 percent; females, 19.5 percent. Males' transit share for all trips is 5.8 percent; females, 6.6 percent. Males' bicycle share for all trips is 2.2 percent; females, 0.8 percent. Males' walk share for all trips is 9.4 percent; females, 10.4 percent.

The modal share patterns by gender and age group, shown in Table 4.2.3, are similar to the patterns discussed for Table 4.1.3. Males show consistently higher vehicle **driver and bicycle rider shares than females across all age groups. Females show** consistently higher vehicle passenger and transit passenger shares than males across all age groups. Females tend to have higher walk shares than males, except for the 5-

to-17-year-old group, where boys (21.2 percent of all trips) have a higher share of walk trips than girls (16.8 percent of all trips).

The work trip modal shares for males and females by age group follow the same pattern as total trip modal shares, with a few exceptions. Young male workers under age 18 have higher work trip transit shares than young female workers (8.9 percent male versus 4.4 percent female). Also, elderly male workers (65 and over) have higher work trip transit shares than elderly female workers (15.8 percent male versus 14.7 percent female). These very young and very elderly workers are very small markets of total home-based work trips.

Overall, the home-based work transit share for females (12.2 percent) is significantly higher than the home-based work transit share for males (8.4 percent).

**Table 4.2.1**

**Share of Population Reporting Travel by Age and Gender**  
**1990 San Francisco Bay Area, 1981 Sydney, and 1978/79 Melbourne**

Region	Gender	<u>Age Group (Percent Share of Population Reporting Travel)</u>							
		5-11	12-16	17-25	26-34	35-59	60-64	65-99	5-99
San Francisco Bay Area	Male	87.6%	89.2%	83.2%	87.2%	88.3%	75.6%	70.4%	85.4%
	Female	85.8%	90.1%	81.5%	84.3%	85.3%	70.4%	60.3%	81.7%
	Total	86.8%	89.6%	82.4%	85.8%	86.8%	72.8%	64.6%	83.0%
Sydney	Male	86%	84%	76%	82%	81%	77%	67%	80%
	Female	86%	85%	77%	80%	75%	64%	57%	76%
	Total	86%	84%	77%	81%	78%	71%	61%	78%
Melbourne	Male	95%	95%	92%	95%	92%	79%	61%	90%
	Female	94%	94%	87%	82%	76%	61%	52%	80%
	Total	95%	95%	89%	89%	84%	70%	56%	85%



**Table 4.2.2****Average Trips / Person and Trip Purpose Share by Age Group by Gender**

Age Group	Gender	Average Total Trips/Person	Share of Trips by Trip Purpose				
			HBW	HBSH	HBSR	HBSK	NHB
5-17	Male	2.668	1.9%	17.0%	14.5%	49.3%	17.4%
	Female	2.745	2.7%	19.7%	13.1%	44.9%	19.5%
18-22	Male	3.033	29.5%	14.3%	13.0%	17.9%	25.4%
	Female	3.079	27.1%	22.5%	11.3%	17.1%	22.0%
23-29	Male	3.144	40.4%	15.1%	10.2%	5.6%	28.7%
	Female	3.117	33.9%	24.5%	10.6%	4.6%	26.3%
30-39	Male	3.472	39.6%	18.3%	9.4%	1.6%	31.1%
	Female	3.655	26.6%	32.7%	9.9%	2.8%	28.0%
40-49	Male	3.659	39.3%	17.8%	7.8%	1.3%	33.8%
	Female	3.822	28.2%	31.0%	9.3%	1.5%	30.0%
50-59	Male	3.443	37.5%	20.3%	9.3%	0.7%	32.2%
	Female	3.314	26.6%	30.3%	10.2%	2.0%	31.1%
60-64	Male	3.067	24.6%	33.8%	12.0%	0.1%	29.5%
	Female	2.827	17.7%	38.0%	12.5%	0.8%	31.0%
65 +	Male	2.736	8.9%	45.6%	18.0%	0.6%	26.9%
	Female	2.301	5.7%	48.6%	15.9%	0.6%	29.3%
5-99	Male	3.203	30.3%	19.9%	10.9%	10.3%	28.6%
	Female	3.209	22.6%	29.9%	11.0%	9.5%	27.1%

**Table 4.2.3**  
**Modal Share for Work and Total Trips by Age Group by Gender**

Age Group	Gender	Home-Based Work Trips						Total Trips						School Bus
		Driver	Pasngr.	Transit	Bicycle	Walk	Other	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Bus
5-17	Male	33.3%	32.1%	8.9%	12.4%	13.3%	0.0%	8.9%	50.0%	5.6%	6.2%	21.2%	0.4%	7.7%
	Female	34.6%	51.9%	4.4%	0.4%	8.7%	0.0%	7.5%	59.5%	6.5%	2.2%	16.8%	0.0%	7.5%
18-22	Male	69.1%	14.4%	8.0%	3.7%	4.8%	0.0%	67.5%	14.5%	8.5%	2.3%	6.3%	0.5%	0.3%
	Female	65.2%	15.8%	10.6%	1.1%	7.1%	0.2%	62.5%	16.9%	8.7%	1.4%	9.9%	0.4%	0.2%
23-29	Male	79.0%	7.3%	7.2%	3.0%	3.2%	0.2%	73.7%	9.4%	6.6%	3.0%	6.9%	0.3%	0.0%
	Female	67.1%	15.1%	9.3%	2.4%	5.9%	0.1%	64.9%	15.8%	8.6%	1.8%	8.2%	0.4%	0.3%
30-39	Male	82.8%	5.6%	8.0%	1.5%	1.7%	0.3%	79.2%	6.3%	5.5%	1.7%	7.0%	0.3%	0.0%
	Female	77.6%	8.4%	10.8%	0.6%	2.3%	0.2%	74.8%	9.7%	5.7%	0.6%	8.8%	0.3%	0.0%
40-49	Male	83.7%	4.4%	9.4%	1.1%	1.2%	0.2%	81.4%	5.3%	5.8%	0.8%	6.2%	0.4%	0.0%
	Female	76.6%	7.9%	12.6%	0.3%	2.5%	0.0%	76.3%	10.0%	5.9%	0.4%	7.4%	0.1%	0.0%
50-59	Male	85.1%	3.0%	7.7%	1.1%	3.0%	0.0%	81.3%	4.0%	4.9%	1.1%	8.7%	0.1%	0.0%
	Female	74.7%	8.1%	12.9%	0.1%	4.2%	0.0%	73.2%	10.1%	6.0%	0.2%	9.5%	0.9%	0.0%
60-64	Male	83.9%	5.3%	8.9%	0.0%	1.9%	0.0%	83.9%	4.2%	3.5%	0.4%	7.8%	0.2%	0.0%
	Female	70.9%	6.2%	15.8%	0.0%	7.1%	0.0%	66.2%	15.8%	6.2%	0.1%	11.4%	0.2%	0.0%
65 +	Male	78.5%	2.3%	15.8%	0.0%	3.4%	0.0%	75.7%	8.3%	5.1%	0.4%	10.4%	0.2%	0.0%
	Female	69.8%	5.1%	14.7%	0.0%	10.4%	0.0%	54.0%	23.6%	7.6%	0.0%	14.2%	0.6%	0.0%
5-99	Male	81.2%	6.0%	8.4%	1.8%	2.4%	0.2%	67.5%	13.6%	5.8%	2.2%	9.4%	0.3%	1.2%
	Female	73.4%	9.8%	12.2%	0.6%	3.9%	0.1%	61.3%	19.5%	6.6%	0.8%	10.4%	0.3%	1.1%

### 4.3 Travel by Employment Status

Section 4.3 of this working paper discusses travel characteristics stratified by employed and not-employed persons. This includes a discussion of average weekday trip rates per person, trip purpose shares, and modal shares.

The following table shows the distribution of weighted and expanded persons (age 5 and over) by employment status by gender:

Gender	Employed Residents	Percent of Total	Not Empld Residents	Percent of Total	Total Persons
Male	1,670,200	64.6%	913,800	35.4%	2,584,000
Female	1,416,700	52.4%	1,287,200	47.6%	2,703,900
Total	3,086,900	58.4%	2,201,000	41.6%	5,287,900

The survey shows that 58.4 percent of Bay Area residents age five and over are employed persons. By gender, 64.6 percent of males and 52.4 percent of females are employed. The majority (54.1 percent) of workers are males; the majority of non-workers (58.5 percent) are females.

Trips per person and trip purpose share, by gender and employment status, are shown in Table 4.3.1. The survey shows a small number of home-based work trips made by non-workers. This may be due to the miscoding of the employment status of the person in question, or may be due to the miscoding of volunteer or school trips as "work" trips. Note that "non-employed" persons includes persons without formal jobs, including student, retired, unemployed, and homemaker occupations. (If a person claimed more than one "status," say, being a student and a part-time worker, or being retired and a part-time worker, then that person was classified as an employed person.)

Trips per person are significantly higher for employed persons as opposed to non-employed persons. Employed males take an average of 3.51 trips per day; non-employed males, 2.64 trips per day. Employed females take an average of 3.61 trips per day; non-employed females, 2.77 trips per day. **An interesting observation is that employed females take more trips per day than employed males; non-employed females also take more trips per day than non-employed males**

The plurality of trips made by employed persons are home-based work trips. For



male employed persons, 41.2 percent of all trips are home-based work trips. For females, 36.2 percent of all trips are home-based trips. Note that the share of home-based shop trips for employed females (22.8 percent) is substantially higher than the share of home-based shop trips made by employed males (16.2 percent).

The plurality of trips made by non-working males are home-based school trips (30.0 percent of all trips). The plurality of trips made by non-working females are home-based shop trips (40.1 percent of all trips).

Modal share for home-based work and total trips, by employment status and by gender, is shown in Table 4.3.2. In terms of modal shares for total trips, non-workers tend to have significantly higher vehicle passenger, bicycle and walk shares as compared to workers; and significantly lower vehicle driver shares as compared to employed persons. Interestingly enough, the transit share for non-workers is not significantly higher for non-workers as compared to workers. Non-working females take transit 6.6 percent of the time. Working females take transit for 6.5 percent of all trips. Non-working males take transit for 7.0 percent of all trips. Working males take transit for 5.3 percent of all trips.

(Any further extension to this analysis will require the review of trip rates, trip purpose and modal shares cross-classified by employment status, gender, and age of person. It is evident from the analysis at hand that all three demographic variables — age, gender, and employment status — are important characteristics, or determinants, of personal travel patterns.)

**Table 4.3.1**  
**Average Trips per Person and Trip Purpose Share by Employment Status by Gender**

Employment Status	Gender	Average Total Trips/Person	Share of Trips by Trip Purpose				
			HBW	HBSH	HBSR	HBSK	NHB
Employed	Male	3.507	41.2%	16.2%	8.5%	2.1%	32.0%
Resident	Female	3.609	36.2%	22.8%	8.8%	2.3%	30.0%
Not an							
Employed	Male	2.644	4.1% *	29.1%	16.6%	30.0%	20.3%
Resident	Female	2.769	3.1% *	40.1%	14.1%	19.7%	23.0%
Total	Male	3.203	30.3%	19.9%	10.9%	10.3%	28.6%
	Female	3.209	22.6%	29.9%	11.0%	9.5%	27.1%

*\* Work trips made by non-employed persons may be due to miscoding of person by employment status, or due to miscoding volunteer, school, etc., trips as work trips.*

**Table 4.3.2**

**Modal Share for Work and Total Trips by Employment Status by Gender**

Employment Status	Gender	<u>Home-Based Work Trips</u>						<u>Total Trips</u>						School
		Driver	Pasngr.	Transit	Bicycle	Walk	Other	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Bus
Employed	Male	82.2%	5.6%	8.4%	1.6%	2.1%	0.2%	79.8%	6.6%	5.3%	1.5%	6.5%	0.3%	0.0%
Resident	Female	74.2%	9.2%	12.4%	0.6%	3.4%	0.1%	73.1%	10.7%	6.5%	0.6%	8.6%	0.4%	0.0%
Not an														
Employed	Male	56.9%*	17.1%*	9.1%*	6.6%*	10.4%*	0.0%*	37.8%	30.3%	7.0%	4.0%	16.5%	0.4%	4.1%
Resident	Female	60.1%*	19.8%*	8.7%*	0.1%*	11.0%*	0.3%*	44.3%	32.2%	6.6%	1.1%	13.0%	0.2%	2.6%
	Male	81.2%	6.0%	8.4%	1.8%	2.4%	0.2%	67.5%	13.6%	5.8%	2.2%	9.4%	0.3%	1.2%
Total	Female	73.4%	9.8%	12.2%	0.6%	3.9%	0.1%	61.3%	19.5%	6.6%	0.8%	10.4%	0.3%	1.1%

\* Work trips made by non-employed persons may be due to miscoding of person by employment status, or due to miscoding volunteer, school, etc., trips as work trips.



#### **4.4 Travel by Driver's License Status**

Section 4.4 of this working paper discusses per capita trip rates, trip purpose shares, and modal shares stratified by persons with and without a driver's license. Data is also summarized on the number of persons by age and by gender, with and without a drivers license.

Persons with a driver's license have significantly higher trips per capita than persons without a drivers license (Table 4.4.1). Males with a drivers license make an average of 3.40 trips per person per weekday; males without, 2.35 trips per person. Females with a drivers license make an average of 3.54 trips per person per weekday; females without, 1.95 trips per person per weekday. The trip purpose share for persons with a drivers license are more oriented toward home-based work and non-home-based trips. Persons without a drivers license have a higher share of home-based shop and home-based school trips.

Regionally, 74.8 percent of the Bay Area population age five or more has a driver's license (Table 4.4.2). This varies from 72.3 percent of females with a license to 77.5 percent of males. The age distribution of persons with and without a driver's license shows that the majority (64.7 percent) of the non-drivers are children age 5 to 17. Only 7.3 percent of the children age 5 to 17 have a drivers license. The second lowest age group, in terms of share of population with a drivers license, is the 65 and over group, with just 72.7 percent having a license. Note the very low share of women age 65-and-over with a driver's license (63.6 percent).

The vast majority of men age 30 to 59 have a drivers license (95 percent to 97 percent). For women, the age group with the highest share with a license is 30 to 39 (92.6 percent).

Modal share data for males and females with and without a drivers license, for home-based work and total trips, is shown in Table 4.4.3. Note the small share (and numbers) of vehicle driver trips made by non-drivers. These discrepancies are due to a likely miscoding of either driver's license status or mode of travel.

**The majority of trips made by non-drivers are as vehicle passengers.** Non-drivers also take proportionately more transit, bicycle and walk trips as compared to drivers.

**Table 4.4.1****Average Trips / Person and Trip Purpose Share by Driver's License by Gender**

Drivers License	Gender	Average Total Trips/Person	Share of Trips by Trip Purpose				
			HBW	HBSH	HBSR	HBSK	NHB
With License	Male	3.400	35.0%	20.0%	10.3%	3.8%	30.8%
	Female	3.542	25.8%	30.9%	10.7%	3.6%	29.0%
Without License	Male	2.353	27.4%	24.0%	10.6%	17.1%	20.8%
	Female	1.954	22.2%	35.3%	10.7%	12.6%	19.2%
Total	Male	3.203	30.3%	19.9%	10.9%	10.3%	28.6%
	Female	3.209	22.6%	29.9%	11.0%	9.5%	27.1%

**Table 4.4.2****Characteristics of Persons by Driver's License, Age and Gender**

Age Group	Gender	With License	Without License	Total	Percent With License
5-17	Male	39,516	435,346	474,862	8.3%
	Female	28,296	425,209	453,505	6.2%
	Total	67,812	860,555	928,367	7.3%
18-22	Male	155,819	30,423	186,242	83.7%
	Female	155,075	41,470	196,545	78.9%
	Total	310,894	71,893	382,787	81.2%
23-29	Male	324,461	28,230	352,691	92.0%
	Female	310,490	40,075	350,565	88.6%
	Total	634,951	68,305	703,256	90.3%
30-39	Male	548,111	25,451	573,562	95.6%
	Female	540,775	43,138	583,913	92.6%
	Total	1,088,886	68,589	1,157,475	94.1%
40-49	Male	421,548	16,286	437,834	96.3%
	Female	419,481	41,808	461,289	90.9%
	Total	841,029	58,094	899,123	93.5%
50-59	Male	246,448	8,407	254,855	96.7%
	Female	228,030	31,066	259,096	88.0%
	Total	474,478	39,473	513,951	92.3%
60-64	Male	93,982	6,910	100,892	93.2%
	Female	92,425	24,115	116,540	79.3%
	Total	186,407	31,025	217,432	85.7%
65 +	Male	173,570	29,531	203,101	85.5%
	Female	179,504	102,944	282,448	63.6%
	Total	353,074	132,475	485,549	72.7%
5-99	Male	2,003,455	580,584	2,584,039	77.5%
	Female	1,954,076	749,825	2,703,901	72.3%
	Total	3,957,531	1,330,409	5,287,940	74.8%



**Table 4.4.3**  
**Modal Share for Work and Total Trips by Driver's License by Gender**

Driver's License	Gender	<u>Home-Based Work Trips</u>						<u>Total Trips</u>						School
		Driver	Pasngr.	Transit	Bicycle	Walk	Other	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Bus
With License	Male	84.2%	5.0%	7.4%	1.4%	1.8%	0.2%	80.3%	6.5%	4.8%	1.3%	6.7%	0.3%	0.1%
	Female	79.4%	7.5%	9.5%	0.5%	3.0%	0.1%	75.5%	11.2%	4.4%	0.5%	8.1%	0.3%	0.1%
Without License	Male	24.6%*	24.3%	26.3%	10.0%	14.0%	0.8%	7.9%*	46.5%	10.2%	6.5%	22.0%	0.4%	6.5%
	Female	9.7%*	34.6%	40.2%	2.3%	12.8%	0.4%	5.3%*	52.4%	15.2%	2.1%	19.5%	0.3%	5.2%
Total	Male	81.2%	6.0%	8.4%	1.8%	2.4%	0.2%	67.5%	13.6%	5.8%	2.2%	9.4%	0.3%	1.2%
	Female	73.4%	9.8%	12.2%	0.6%	3.9%	0.1%	61.3%	19.5%	6.6%	0.8%	10.4%	0.3%	1.1%

\* Vehicle driver trips made by persons without a driver's license are a probable miscoding of either driver's license status or mode of travel.

#### 4.5 Travel by Disability Status

This section discusses the per capita trip rates, trip purpose shares and modal shares of persons stratified by those with and without a disability. As defined in the 1990 survey, disability, more precisely "public transportation disability," was based on the question: *"Does anyone in your household have any physical, mental or other health condition which has lasted six months or more and which makes it difficult to use public transportation?"*

The following table shows the survey-expanded distribution of the Bay Area population, age five and over, by gender, stratified by public transportation disability status:

Gender	Persons with a Disability	Percent of Total Population	Persons without a Disability	Percent of Total Population	Total Population
Male	38,000	1.5%	2,546,100	98.5%	2,584,100
Female	62,200	2.3%	2,641,700	97.7%	2,703,900
Total	100,200	1.9%	5,187,800	98.1%	5,288,000

Of the 21,300 persons age five and over sampled in the 1990 "single day sample" household travel survey, just 389 reported having a public transportation disability. While this is a large enough sample to provide some comfortable statistical estimates, the concern is that this share of persons with a public transportation disability (1.9 percent) compares poorly with the 1990 Census estimate of persons with a mobility limitation (9.7 percent of the population age 16 and over). This underrepresentation of disabled in the 1990 survey is probably due to different (and difficult to understand) wording of the question on public transportation disability.

Disabled persons have significantly lower daily trips per person than non-disabled persons (Table 4.5.1). Males with a public transportation disability take, on average, 2.12 trips per day; males without a disability, 3.22 trips per day. Females with a disability take an average of 2.17 trips per person per weekday; females without a disability, 3.23 trip per day.

**In terms of trip purpose share, persons with disabilities have a proportionately higher share of home-based shop trips than persons without disabilities. Persons with disabilities have lower share of home-based work and home-based school trips**

than persons without disabilities. There does not appear to be a major difference in trip purpose share in terms of home-based social/recreation or non-home-based trips made by disabled versus non-disabled persons.

Disabled versus non-disabled person modal shares for total and home-based work trips is presented in Table 4.5.2. On a total trip basis, disabled persons have a slightly higher likelihood of taking transit or being a vehicle passenger, compared to non-disabled persons. Disabled persons have a lower share of vehicle driver and bicycle trips as compared to non-disabled persons.

These differences are more distinct for home-based work trips. The work trip transit share for disabled persons (20.1 percent) is twice as high than for non-disabled persons (10.0 percent). Vehicle passenger and walk shares are higher for the disabled worker as compared to the non-disabled worker. Vehicle driver and bicycle shares are lower for the disabled worker as compared to the non-disabled worker.



**Table 4.5.1****Average Trips per Person and Trip Purpose Share by Disability Status by Gender**

Disability Status	Gender	Average Total Trips/Person	Share of Trips by Trip Purpose				
			HBW	HBSH	HBSR	HBSK	NHB
With Disability	Male	2.124	16.9%	40.5%	11.9%	5.2%	25.4%
	Female	2.174	9.7%	44.5%	12.1%	3.0%	30.8%
Without Disability	Male	3.218	30.5%	19.7%	10.9%	10.3%	28.6%
	Female	3.234	22.8%	29.7%	11.0%	9.6%	27.0%
Total	Male	3.203	30.3%	19.9%	10.9%	10.3%	28.6%
	Female	3.209	22.6%	29.9%	11.0%	9.5%	27.1%

**Table 4.5.2**

**Modal Share for Work and Total Trips by Disability Status by Gender**

Disability Status	Gender	<u>Home-Based Work Trips</u>						<u>Total Trips</u>						School
		Driver	Pasngr.	Transit	Bicycle	Walk	Other	Driver	Pasngr.	Transit	Bicycle	Walk	Other	Bus
With Disability	Male	58.4%	3.5%	29.8%	0.0%	8.3%	0.0%	74.3%	9.8%	6.5%	0.2%	7.4%	1.4%	0.4%
	Female	69.8%	18.3%	10.0%	0.0%	1.9%	0.0%	53.9%	25.5%	7.2%	0.0%	11.7%	1.5%	0.2%
	Total	64.0%	10.7%	20.1%	0.0%	5.2%	0.0%	61.5%	19.6%	6.9%	0.1%	10.1%	1.4%	0.3%
Without Disability	Male	81.3%	6.0%	8.3%	1.8%	2.4%	0.2%	67.5%	13.6%	5.7%	2.2%	9.4%	0.3%	1.2%
	Female	73.4%	9.8%	12.2%	0.6%	3.9%	0.1%	61.4%	19.4%	6.5%	0.8%	10.4%	0.3%	1.1%
	Total	77.8%	7.7%	10.0%	1.3%	3.0%	0.2%	64.4%	16.6%	6.2%	1.5%	9.9%	0.3%	1.2%
Total	Male	81.2%	6.0%	8.4%	1.8%	2.4%	0.2%	67.5%	13.6%	5.8%	2.2%	9.4%	0.3%	1.2%
	Female	73.4%	9.8%	12.2%	0.6%	3.9%	0.1%	61.3%	19.5%	6.6%	0.8%	10.4%	0.3%	1.1%
	Total	77.8%	7.7%	10.0%	1.3%	3.0%	0.2%	64.3%	16.6%	6.2%	1.5%	9.9%	0.3%	1.2%

## 5.0 Weekday 1990 County Travel

Section 5.0 of Working Paper #4 discusses county-level travel patterns. Data is reported from the expanded, weighted “single day sample” survey. Tables included in Appendix 5.0 show detailed county-to-county trip tables by trip purpose and travel mode.

### 5.1 County Trips by Trip Purpose

This subsection discusses county-level trip productions and trip attractions by trip purpose. The term “production” and “attraction” are terms commonly used in transportation planning analysis. “Productions” are always the home-end of all home-based trips. “Attractions” are always the non-home-end of all home-based trips. For non-home-based trips, the trip origin is the same as the trip production; the trip destination is the same as the trip attraction.

Weekday trips by trip purpose and county of production are shown in Table 5.1.1. The largest number of trips are produced in Santa Clara County (4.08 million trips per weekday); the smallest number, in Napa county (344,000 trips per weekday). By trip purpose share, Napa County residents have the lowest share of home-based work trips (21.2 percent) compared to San Mateo County with the highest share of home-based work trips (29.4 percent).

Home-based shop (other) trip purpose shares range from a low of 20.7 percent of trips made by San Francisco residents to 30.4 percent of trips made by Solano County residents. Home-based social/recreation trip purpose shares range from 9.0 percent of Alameda County residents’ trips to 13.0 percent of San Mateo County residents’ trips.

Residents of Marin County (7.9 percent) have the lowest home-based school trip purpose share; Solano County (11.6 percent), the highest. Non-home-based trips range from a low of 22.2 percent of the trips produced in Solano County to 35.2 percent of the trips produced in San Francisco County.

Weekday trips by trip purpose and county of attraction are shown in Table 5.1.2. Again, Santa Clara County attracts the largest share of the regional number of total trips (4.17 million trips out of 16.97 million); Napa County, the smallest share (340,300 trips).



The trip purpose share for home-based work trips varies by county, from a low of 19.3 percent of the trips attracted to Sonoma County, to a high of 32.1 percent of the trips attracted to San Francisco County.

Home-based shop attraction county shares range from 19.4 percent of the total trips attracted in San Francisco to 32.5 percent of the trips attracted to Solano County.

Home-based social/recreation trip purpose shares range from 9.1 percent of Alameda County attractions to 13.6 percent of Marin County attractions. Home-based school trip purpose shares range from just 7.9 percent of Marin County attractions to 11.4 percent of Solano County attractions. Non-home-based trip purpose shares range from a low of 24.2 percent in Solano County to a high of 32.6 percent of the trips attracted to Marin County.

**Table 5.1.1**  
**1990 Weekday Trips by Trip Purpose and County of Production**

County of Production (Residence)	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec	Home-Based School	Non-Home-Based (Origin)	Total
San Francisco	562,500 25.7%	453,000 20.7%	209,300 9.6%	195,400 8.9%	770,200 35.2%	2,190,400 100.0%
San Mateo	503,100 29.4%	410,900 24.0%	222,700 13.0%	166,700 9.7%	408,000 23.8%	1,711,400 100.0%
Santa Clara	1,165,800 28.5%	971,300 23.8%	475,300 11.6%	409,300 10.0%	1,061,900 26.0%	4,083,600 100.0%
Alameda	943,700 25.7%	945,000 25.8%	330,700 9.0%	398,700 10.9%	1,050,000 28.6%	3,668,100 100.0%
Contra Costa	586,400 25.6%	651,600 28.4%	270,700 11.8%	205,300 9.0%	577,500 25.2%	2,291,500 100.0%
Solano	203,200 24.8%	249,100 30.4%	89,500 10.9%	95,300 11.6%	181,600 22.2%	818,700 100.0%
Napa	72,900 21.2%	96,200 28.0%	36,300 10.6%	36,800 10.7%	101,800 29.6%	344,000 100.0%
Sonoma	251,100 21.5%	318,700 27.3%	135,000 11.6%	109,300 9.4%	352,300 30.2%	1,166,400 100.0%
Marin	183,300 26.5%	151,900 21.9%	88,900 12.8%	54,600 7.9%	213,900 30.9%	692,600 100.0%
Region	4,472,000 26.4%	4,247,700 25.0%	1,858,400 11.0%	1,671,400 9.9%	4,717,200 27.8%	16,966,700 100.0%

Notes: Upper entry is the number of trips.  
Lower entry is the row percent.

**Table 5.1.2**  
**1990 Weekday Trips by Trip Purpose and County of Attraction**

County of Attraction (non-home)	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec	Home-Based School	Non-Home-Based (Destination)	Total
San Francisco	807,600 32.1%	489,700 19.4%	252,500 10.0%	206,300 8.2%	762,200 30.3%	2,518,300 100.0%
San Mateo	454,000 27.8%	406,000 24.9%	204,700 12.6%	155,700 9.5%	410,200 25.2%	1,630,600 100.0%
Santa Clara	1,239,900 29.7%	982,700 23.6%	476,600 11.4%	417,300 10.0%	1,051,800 25.2%	4,168,300 100.0%
Alameda	907,900 24.8%	959,900 26.3%	332,900 9.1%	401,900 11.0%	1,053,100 28.8%	3,655,700 100.0%
Contra Costa	460,300 21.8%	610,000 28.9%	251,700 11.9%	199,900 9.5%	585,700 27.8%	2,107,600 100.0%
Solano	156,600 20.6%	247,700 32.5%	85,900 11.3%	87,200 11.4%	184,600 24.2%	762,000 100.0%
Napa	73,500 21.6%	91,100 26.8%	37,600 11.0%	37,400 11.0%	100,700 29.6%	340,300 100.0%
Sonoma	216,500 19.3%	312,600 27.8%	126,600 11.3%	113,300 10.1%	353,500 31.5%	1,122,500 100.0%
Marin	155,700 23.5%	148,000 22.4%	89,900 13.6%	52,400 7.9%	215,400 32.6%	661,400 100.0%
Region	4,472,000 26.4%	4,247,700 25.0%	1,858,400 11.0%	1,671,400 9.9%	4,717,200 27.8%	16,966,700 100.0%

Notes: Upper entry is the number of trips.  
Lower entry is the row percent.



## 5.2 County Trips by Travel Mode

This subsection reports on the number and share of county-level trips by travel mode, by county of production and county of attraction.

Home-based work trips by mode by county of production are shown in Table 5.2.1. Home-based work trips by mode by county of attraction are shown in Table 5.2.2.

Transit shares for home-based work trips, by county of production, range from a low of 1.9 percent of Sonoma County work trip productions to 32.4 percent of San Francisco County resident work trip productions. San Francisco resident workers account for 40.3 percent of the regional work trip productions. Alameda County has the next highest work trip transit share, at 13.0 percent; followed by Marin County, 9.3 percent; Contra Costa County, 8.5 percent; and San Mateo County, 7.7 percent.

Walk shares for home-based work trips range from 1.4 percent of Contra Costa County productions to 7.2 percent of San Francisco County productions. San Francisco resident workers account for 29.9 percent of the regional home-based work trips via walking.

Bicycle shares for home-based work trip productions range from a low of 0.3 percent of Contra Costa trips to 1.4 percent of Alameda County work trips. Santa Clara County has the largest number (16,700) home-based work trip productions taken on bicycle.

Vehicle passenger shares for home-based work trip productions range from 6.1 percent in Sonoma County to 10.0 percent of Solano County productions. Vehicle driver shares for home-based work productions range from just 48.8 percent of San Francisco County work trips to 87.6 percent of Santa Clara County work trips. Santa Clara County resident workers account for 29.3 percent of the regional home-based work vehicle driver trips.

The county of attraction (county of work) modal shares follow similar patterns to the county of production data (Table 5.2.2). Transit shares are highest to San Francisco County jobs at 38.5 percent of home-based work trips attracted. San Francisco jobs attract 68.8 percent (310,900 out of 451,800) regional home-based work **transit trips. Home-based work walk trips (5.2 percent) and home-based work vehicle passenger trips (11.1 percent)** are also the highest in San Francisco County. Home-based work bicycle trip shares are highest in Alameda (1.6 percent) and Santa

Clara (1.5 percent) counties.

Vehicle driver home-based work shares range from a low of 43.6 percent to jobs in San Francisco County to a high of 89.6 percent of the work trips attracted to jobs in Sonoma County.

A county-level comparison of 1990 household travel survey work trip shares to the 1990 Census (journey-to-work data) means of transportation-to-work shares is shown in Table 5.2.3. For this analysis, home-to-work related and work related-to-home trips were removed to be as comparable as possible to the Census definition of home-to-work commute travel. On a regional basis, the MTC 1990 Survey compares quite well with the modal shares from the 1990 Census. The survey slightly overestimates the number of transit work trips (10.5 percent survey versus 9.9 percent Census); and underestimates the share of walk work trips (3.1 percent survey versus 3.8 percent Census). These regional-level results are very encouraging.

By county of residence, the work trip transit shares from the 1990 survey compare quite favorably with the 1990 Census. Alameda County shows the largest overestimate of transit work trips (13.6 percent survey versus 10.4 percent Census). Marin County shows the largest underestimate of transit work trips (9.6 percent survey versus 11.0 percent Census). Comparisons for other work trip travel modes, survey to census, are also quite favorable, with a few exceptions, including walk trips in San Francisco (7.2 percent survey versus 10.2 percent Census); and Marin County vehicle driver trips (81.0 percent survey versus 76.8 percent Census). Overall, the county-level comparison of work trip modal shares, survey shares relative to the 1990 Census, are quite acceptable.

Modal shares for all trip purposes combined, by county of production, are shown in Table 5.2.4. Transit shares range from 1.0 percent of Napa County productions to 22.3 percent of San Francisco County productions. San Francisco County accounts for 46.2 percent of the regional transit trip productions. Alameda County has the second highest transit share, 7.0 percent; followed by San Mateo, 4.5 percent; Marin County, 4.3 percent; and Contra Costa County, 4.0 percent of all trips.

Walk shares range from a low of 5.7 percent of all trips produced in Contra Costa County to **23.2 percent of all trips produced in San Francisco County**. Bicycle shares range from a low of 0.5 percent of Contra Costa County trips to 1.9 percent of Napa and Sonoma County trips. Three other counties — Marin, San Mateo and Santa

Clara — have a 1.8 percent bicycle mode share.

Vehicle passenger shares range from just 10.9 percent of the trips produced in San Francisco County to 19.1 percent of the trips produced in Solano County. Vehicle driver shares range from 41.4 percent of San Francisco trips to 73.1 percent of Marin county trips.

Modal shares for all trip purposes by county of attraction are shown in Table 5.2.5. As with the previous analysis, San Francisco County leads in terms of transit passenger and walk share, and also has the lowest vehicle driver and vehicle passenger shares. San Francisco County accounts for 60.9 percent of the regional transit trip attractions (644,100 out of 1.06 million regional transit trips).



**Table 5.2.1****1990 Weekday Home-Based Work Trips by Mode and County of Production**

County of Production (Residence)	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total
San Francisco	274,777 48.8%	51,104 9.1%	182,263 32.4%	7,581 1.3%	40,509 7.2%	6,295 1.1%	562,529 100.0%
San Mateo	402,773 80.1%	43,967 8.7%	38,928 7.7%	6,987 1.4%	10,253 2.0%	184 0.0%	503,092 100.0%
Santa Clara	1,021,287 87.6%	74,690 6.4%	28,125 2.4%	16,739 1.4%	23,611 2.0%	1,351 0.1%	1,165,803 100.0%
Alameda	703,123 74.5%	74,324 7.9%	122,629 13.0%	13,858 1.5%	29,089 3.1%	624 0.1%	943,647 100.0%
Contra Costa	485,400 82.8%	41,011 7.0%	49,996 8.5%	1,889 0.3%	8,148 1.4%	0 0.0%	586,444 100.0%
Solano	163,868 80.7%	20,272 10.0%	6,462 3.2%	2,344 1.2%	9,756 4.8%	463 0.2%	203,165 100.0%
Napa	61,711 84.6%	6,456 8.9%	1,666 2.3%	936 1.3%	2,000 2.7%	157 0.2%	72,926 100.0%
Sonoma	219,549 87.5%	15,378 6.1%	4,690 1.9%	2,746 1.1%	8,690 3.5%	0 0.0%	251,053 100.0%
Marin	149,803 81.7%	12,219 6.7%	16,995 9.3%	875 0.5%	3,215 1.8%	216 0.1%	183,323 100.0%
Region	3,482,291 77.9%	339,421 7.6%	451,754 10.1%	53,955 1.2%	135,271 3.0%	9,290 0.2%	4,471,982 100.0%

Notes: Upper entry is the number of trips.

Lower entry is the row percent.

**Table 5.2.2**

**1990 Weekday Home-Based Work Trips by Mode and County of Attraction**

County of Attraction (Work)	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total
San Francisco	351,998 43.6%	89,724 11.1%	310,873 38.5%	7,581 0.9%	41,606 5.2%	5,841 0.7%	807,623 100.0%
San Mateo	389,869 85.9%	34,240 7.5%	14,162 3.1%	5,058 1.1%	9,715 2.1%	936 0.2%	453,980 100.0%
Santa Clara	1,088,862 87.8%	76,399 6.2%	30,236 2.4%	18,668 1.5%	24,367 2.0%	1,351 0.1%	1,239,883 100.0%
Alameda	719,153 79.2%	68,396 7.5%	77,707 8.6%	14,109 1.6%	27,955 3.1%	542 0.1%	907,862 100.0%
Contra Costa	407,146 88.4%	31,827 6.9%	11,572 2.5%	1,639 0.4%	8,148 1.8%	0 0.0%	460,332 100.0%
Solano	130,965 83.6%	11,126 7.1%	1,395 0.9%	2,758 1.8%	9,756 6.2%	620 0.4%	156,620 100.0%
Napa	62,852 85.5%	6,821 9.3%	998 1.4%	522 0.7%	2,305 3.1%	0 0.0%	73,498 100.0%
Sonoma	194,071 89.6%	9,771 4.5%	1,738 0.8%	2,745 1.3%	8,204 3.8%	0 0.0%	216,529 100.0%
Marin	137,375 88.3%	11,117 7.1%	3,073 2.0%	875 0.6%	3,215 2.1%	0 0.0%	155,655 100.0%
Region	3,482,291 77.9%	339,421 7.6%	451,754 10.1%	53,955 1.2%	135,271 3.0%	9,290 0.2%	4,471,982 100.0%

Notes: Upper entry is the number of trips.

Lower entry is the row percent.

**Table 5.2.3**  
**Comparison of 1990 Census and 1990 Survey Modal Shares**  
**Work Trips by County of Residence**

County of Residence	Vehicle Driver	Vehicle Passenger	Transit	Bicycle	Walk	Other	Total
San Francisco	45.3%	6.6%	34.8%	1.0%	10.2%	2.0%	100.0%
San Mateo	47.3%	8.8%	34.2%	1.5%	7.2%	0.9%	100.0%
San Clara	80.7%	7.2%	7.7%	0.8%	2.6%	1.0%	100.0%
Mateo	78.9%	9.0%	8.0%	2.0%	2.1%	0.0%	100.0%
Santa Clara	85.6%	6.8%	3.1%	1.5%	2.1%	1.0%	100.0%
	87.3%	6.6%	2.5%	1.5%	2.1%	0.0%	100.0%
	75.4%	7.4%	10.4%	1.3%	4.1%	1.4%	100.0%
Alameda	73.8%	7.8%	13.6%	1.4%	3.3%	0.0%	100.0%
Contra Costa	80.3%	8.1%	8.1%	0.5%	1.9%	1.2%	100.0%
	82.2%	7.3%	8.7%	0.3%	1.5%	0.0%	100.0%
	81.9%	11.0%	2.3%	0.8%	2.5%	1.5%	100.0%
Solano	80.3%	10.1%	3.5%	1.2%	4.7%	0.2%	100.0%
	83.9%	7.4%	1.1%	1.3%	5.3%	1.0%	100.0%
Napa	84.4%	8.5%	2.4%	1.4%	3.1%	0.2%	100.0%
	84.6%	7.5%	2.4%	1.1%	3.4%	1.0%	100.0%
Sonoma	86.9%	6.4%	2.0%	1.5%	3.3%	0.0%	100.0%
	76.8%	7.3%	11.0%	0.8%	3.2%	1.0%	100.0%
Marin	81.0%	7.0%	9.6%	0.5%	1.8%	0.1%	100.0%
Bay Area	76.7%	7.4%	9.9%	1.1%	3.8%	1.2%	100.0%
	77.2%	7.7%	10.5%	1.3%	3.1%	0.2%	100.0%

*Notes: Upper entry is 1990 Census modal share to work (travelers).*

*Lower entry is 1990 Survey modal share for Census-comparable trips.*



**Table 5.2.4**  
**1990 Weekday Total Trips by Mode and County of Production**

County of Production	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total
San Francisco	907,880 41.4%	239,168 10.9%	488,739 22.3%	14,038 0.6%	507,641 23.2%	32,916 1.5%	2,190,382 100.0%
San Mateo	1,174,199 68.6%	276,586 16.2%	76,457 4.5%	30,072 1.8%	139,652 8.2%	14,354 0.8%	1,711,320 100.0%
Santa Clara	2,904,214 71.1%	718,653 17.6%	75,373 1.8%	72,812 1.8%	258,620 6.3%	53,994 1.3%	4,083,666 100.0%
Alameda	2,333,909 63.6%	576,796 15.7%	257,511 7.0%	62,483 1.7%	396,783 10.8%	40,665 1.1%	3,668,147 100.0%
Contra Costa	1,639,932 71.6%	389,695 17.0%	90,908 4.0%	12,267 0.5%	130,241 5.7%	28,516 1.2%	2,291,559 100.0%
Solano	549,861 67.2%	156,041 19.1%	11,692 1.4%	9,506 1.2%	69,860 8.5%	21,687 2.6%	818,647 100.0%
Napa	239,438 69.6%	58,432 17.0%	3,314 1.0%	6,679 1.9%	32,995 9.6%	3,163 0.9%	344,021 100.0%
Sonoma	807,334 69.2%	195,728 16.8%	23,252 2.0%	22,086 1.9%	78,121 6.7%	39,776 3.4%	1,166,297 100.0%
Marin	506,543 73.1%	87,529 12.6%	29,762 4.3%	12,359 1.8%	48,953 7.1%	7,530 1.1%	692,676 100.0%
Region	11,063,310 65.2%	2,698,628 15.9%	1,057,008 6.2%	242,302 1.4%	1,662,866 9.8%	242,601 1.4%	16,966,715 100.0%

Notes: Upper entry is the number of trips.  
Lower entry is the row percent.

**Table 5.2.5**

**1990 Weekday Total Trips by Mode and County of Attraction**

County of Attraction	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total
San Francisco	1,023,806 40.7%	295,658 11.7%	644,101 25.6%	14,315 0.6%	508,271 20.2%	32,171 1.3%	2,518,322 100.0%
San Mateo	1,146,059 70.3%	263,318 16.1%	43,263 2.7%	23,682 1.5%	138,999 8.5%	15,305 0.9%	1,630,626 100.0%
Santa Clara	2,979,414 71.5%	722,792 17.3%	74,756 1.8%	79,202 1.9%	259,112 6.2%	53,124 1.3%	4,168,400 100.0%
Alameda	2,372,819 64.9%	570,072 15.6%	215,261 5.9%	62,208 1.7%	395,026 10.8%	40,184 1.1%	3,655,570 100.0%
Contra Costa	1,525,684 72.4%	371,150 17.6%	37,377 1.8%	12,168 0.6%	131,956 6.3%	29,265 1.4%	2,107,600 100.0%
Solano	511,459 67.1%	143,352 18.8%	6,224 0.8%	9,555 1.3%	69,670 9.1%	21,862 2.9%	762,122 100.0%
Napa	237,189 69.7%	58,187 17.1%	2,646 0.8%	6,266 1.8%	32,994 9.7%	3,006 0.9%	340,288 100.0%
Sonoma	778,002 69.3%	184,605 16.4%	18,904 1.7%	22,086 2.0%	78,161 7.0%	40,789 3.6%	1,122,547 100.0%
Marin	488,878 73.9%	89,494 13.5%	14,476 2.2%	12,820 1.9%	48,677 7.4%	6,895 1.0%	661,240 100.0%
Region	11,063,310 65.2%	2,698,628 15.9%	1,057,008 6.2%	242,302 1.4%	1,662,866 9.8%	242,601 1.4%	16,966,715 100.0%

Notes: Upper entry is the number of trips.  
Lower entry is the row percent.

### 5.3 County -to-County Trips

This subsection of Working Paper #4 discusses the county-to-county travel patterns implied by the weighted, expanded “single day sample” of the 1990 household travel survey. The tables referred to in this text provide summaries of intra-county and inter-county home-based work trips and total trips.

Detailed appendix tables provide county-to-county trip tables by trip purpose and travel mode.

Home-based work trips by four travel modes (driver, in-vehicle, transit and total) for intra-county trips, production and attraction totals by county, are shown in Table 5.3.1. This table is useful in indicating the intra-county versus inter-county share of trips, by means of transportation, on a county-by-county basis. Regionally, 73.7 percent of all home-based work trips in the Bay Area are intra-county. This varies, by mode, from just 58.8 percent of all home-based work transit trips being intra-county to 76.1 percent of all home-based work vehicle driver trips. This means that home-based work transit trips are typically longer (i.e., more inter-county oriented) than home-based work vehicle driver trips.

By county of production, Santa Clara County has the highest share of intra-county home-based work total trips, at 91.5 percent; the “bedroom” county of San Mateo County, has the lowest at 59.8 percent intra-county trips. The other two “bedroom” counties with low intra-county work trips are Marin (60.1 percent) and Contra Costa (60.6 percent).

By county of attraction, 95.4 percent of the work trips attracted to Sonoma County are made by Sonoma County residents. At the other extreme, 55.8 percent of the home-based work trips attracted to jobs in San Francisco County are made by residents of San Francisco County.

The low share of intra-county home-based work transit trips is notable in Contra Costa County (11.6 percent intra-county); Marin County (11.8 percent intra-county); and San Mateo County (17.0 percent intra-county). These three counties are “exporting” most of their daily transit commuters to jobs in San Francisco, which explains the very low intra-county home-based work transit share.

Trips for all trip purposes combined, by four travel modes (driver, in-vehicle, transit and total) for intra-county trips, production and attraction totals by county, are



shown in Table 5.3.2. Regionally, 86.7 percent of all trips made in the Bay Area are intra-county. This varies, by mode, from 73.1 percent of all transit trips being intra-county to 85.9 percent of all in-vehicle persons trips.

San Mateo County has the lowest share of intra-county trips by all trip purposes at 76.5 percent. At the other extreme, 92.7 percent of all trips produced in Sonoma County are intra-county. By county of attraction, 76.1 percent of all trips attracted to San Francisco are intra-county; 96.3 percent of trips attracted to Sonoma County are intra-county.

As with work trips, three counties show a very low intra-county transit share. Only 27.6 percent of transit trips produced in Contra Costa County are intra-county; 36.5 percent of transit trips produced in San Mateo County are intra-county; and 37.6 percent of transit trips produced in Marin County are intra-county. This is reflected in high number and share of transit trips destined to San Francisco.

Table 5.3.1

## 1990 Home-Based Work Trip Productions, Attractions, and Intra-County Trips

	Mode	Intra-County	Productions	Attractions	% Intra of Productions	% Intra of Attractions
San Francisco	Driver	188,200	274,800	352,000	68.5%	53.5%
	In-Vehicle	231,600	325,900	441,700	71.1%	52.4%
	Transit	165,900	182,300	310,900	91.0%	53.4%
	Total	450,800	562,500	807,600	80.1%	55.8%
San Mateo	Driver	257,800	402,800	389,900	64.0%	66.1%
	In-Vehicle	279,800	446,700	424,100	62.6%	66.0%
	Transit	6,600	38,900	14,200	17.0%	46.5%
	Total	301,100	503,100	457,400	59.8%	65.8%
Santa Clara	Driver	934,700	1,021,300	1,088,900	91.5%	85.8%
	In-Vehicle	1,001,600	1,096,000	1,165,300	91.4%	86.0%
	Transit	23,200	28,100	30,200	82.6%	76.8%
	Total	1,066,500	1,165,800	1,294,700	91.5%	82.4%
Alameda	Driver	515,500	703,100	719,100	73.3%	71.7%
	In-Vehicle	570,300	777,500	787,500	73.4%	72.4%
	Transit	58,300	122,600	77,700	47.6%	75.0%
	Total	616,300	943,600	853,300	65.3%	72.2%
Contra Costa	Driver	316,300	485,400	407,100	65.2%	77.7%
	In-Vehicle	339,500	526,400	439,000	64.5%	77.3%
	Transit	5,800	50,000	11,600	11.6%	50.0%
	Total	355,100	586,400	456,600	60.6%	77.8%
Solano	Driver	105,900	163,900	131,000	64.6%	80.8%
	In-Vehicle	115,600	184,100	142,100	62.8%	81.4%
	Transit	1,200	6,500	1,400	18.5%	85.7%
	Total	129,400	203,200	156,600	63.7%	82.6%
Napa	Driver	48,900	61,700	62,800	79.3%	77.9%
	In-Vehicle	54,300	68,200	69,700	79.6%	77.9%
	Transit	1,000	1,700	1,000	58.8%	100.0%
	Total	57,900	72,900	73,500	79.4%	78.8%
Sonoma	Driver	184,400	219,500	194,100	84.0%	95.0%
	In-Vehicle	193,900	234,900	203,800	82.5%	95.1%
	Transit	1,700	4,700	1,700	36.2%	100.0%
	Total	206,600	251,100	216,500	82.3%	95.4%
Marin	Driver	96,700	149,800	137,400	64.6%	70.4%
	In-Vehicle	104,000	162,000	148,500	64.2%	70.0%
	Transit	2,000	17,000	3,100	11.8%	64.5%
	Total	110,200	183,300	155,700	60.1%	70.8%
Bay Area	Driver	2,648,400	3,482,300	3,482,300	76.1%	76.1%
	In-Vehicle	2,890,600	3,821,700	3,821,700	75.6%	75.6%
	Transit	265,700	451,800	451,800	58.8%	58.8%
	Total	3,293,900	4,471,900	4,471,900	73.7%	73.7%

Table 5.3.2

## 1990 Total Trip Productions, Attractions, and Intra-County Trips

	Mode	Intra-County	Productions	Attractions	% Intra of Productions	% Intra of Attractions
San Francisco	Driver	716,700	907,900	1,023,800	78.9%	70.0%
	In-Vehicle	920,200	1,147,000	1,319,500	80.2%	69.7%
	Transit	444,900	488,700	644,100	91.0%	69.1%
	Total	1,915,200	2,190,400	2,518,300	87.4%	76.1%
San Mateo	Driver	890,100	1,174,200	1,146,000	75.8%	77.7%
	In-Vehicle	1,105,600	1,450,800	1,409,400	76.2%	78.4%
	Transit	27,900	76,500	43,300	36.5%	64.4%
	Total	1,308,500	1,711,300	1,630,600	76.5%	80.2%
Santa Clara	Driver	2,714,000	2,904,200	2,979,400	93.5%	91.1%
	In-Vehicle	3,401,000	3,622,900	3,702,200	93.9%	91.9%
	Transit	65,600	75,400	74,800	87.0%	87.7%
	Total	3,849,300	4,083,700	4,168,400	94.3%	92.3%
Alameda	Driver	1,971,800	2,333,900	2,372,800	84.5%	83.1%
	In-Vehicle	2,481,500	2,910,700	2,942,900	85.3%	84.3%
	Transit	171,500	257,500	215,300	66.6%	79.7%
	Total	3,147,800	3,668,100	3,655,600	85.8%	86.1%
Contra Costa	Driver	1,315,800	1,639,900	1,525,700	80.2%	86.2%
	In-Vehicle	1,648,900	2,029,600	1,896,800	81.2%	86.9%
	Transit	25,100	90,900	37,400	27.6%	67.1%
	Total	1,843,300	2,291,600	2,107,600	80.4%	87.5%
Solano	Driver	456,300	549,900	511,500	83.0%	89.2%
	In-Vehicle	589,400	705,900	654,800	83.5%	90.0%
	Transit	6,000	11,700	6,200	51.3%	96.8%
	Total	695,200	818,600	762,100	84.9%	91.2%
Napa	Driver	209,800	239,400	237,200	87.6%	88.4%
	In-Vehicle	263,100	297,900	295,400	88.3%	89.1%
	Transit	2,600	3,300	2,600	78.8%	100.0%
	Total	307,700	344,000	340,300	89.4%	90.4%
Sonoma	Driver	745,700	807,300	778,000	92.4%	95.8%
	In-Vehicle	924,100	1,003,100	962,600	92.1%	96.0%
	Transit	18,100	23,300	18,900	77.7%	95.8%
	Total	1,081,400	1,166,300	1,122,600	92.7%	96.3%
Marin	Driver	410,800	506,600	488,900	81.1%	84.0%
	In-Vehicle	485,000	594,100	578,400	81.6%	83.9%
	Transit	11,200	29,800	14,500	37.6%	77.2%
	Total	562,800	692,700	661,200	81.2%	85.1%
Bay Area	Driver	9,431,000	11,063,300	11,063,300	85.2%	85.2%
	In-Vehicle	11,818,800	13,762,000	13,762,000	85.9%	85.9%
	Transit	772,900	1,057,100	1,057,100	73.1%	73.1%
	Total	14,711,200	16,966,700	16,966,700	86.7%	86.7%



## 5.4 County-Level Vehicle Occupancy

This last subsection of Working Paper #4 reports on private passenger vehicle occupancy rates by trip purpose by county of production and county of attraction. Vehicle occupancy rates are approximate calculations based on the number of vehicle driver trips plus the number of vehicle passenger trips, divided by the number of vehicle driver trips.

It is important to note that these vehicle occupancy rates are only approximate estimates due to the nature of trip reporting in household travel surveys. There are many examples in the 1990 survey of “mixed purpose” trips, e.g., the vehicle driver’s trip purpose is different than the vehicle passenger’s trip purpose. For example, a trip with a parent driving a child to school, then driving home again, is classified as two home-based shop (other) vehicle driver trips. The child’s trip, riding in the same vehicle, is classified as one home-based school passenger trip. This classification scheme results in very high vehicle occupancy rates (2.37 persons per vehicle) for home-based school trips given that the drivers of these trips are typically classified as either home-based shop (other) or home-based work trip purposes.

Vehicle occupancy rates can also be based on the reported vehicle occupancy in the trip diary. This reported vehicle occupancy data is important in distinguishing between drive alone and carpooling levels for in-vehicle persons, but typically provides very different vehicle occupancy estimates than the straightforward (vehicle driver + vehicle passenger / vehicle driver) calculation. The analysis of vehicle occupancy rates, comparing the trip diary vehicle occupancy data to the vehicle driver/vehicle passenger data is not included in this working paper.

Given this ambiguity in the vehicle occupancy calculation, only vehicle occupancy rates for total trip purposes are analyzed here. The reader should interpret and use the trip purpose and county-level vehicle occupancy rates with caution.

The average vehicle occupancy in the Bay Area is 1.24 persons per vehicle, for all trip purposes combined. This vehicle occupancy rate ranges from a low of 1.17 persons per vehicle for trips produced in Marin County to a high of 1.28 persons per vehicle for trips produced in Solano County. San Francisco County has the second highest vehicle occupancy rate at 1.26 persons per vehicle. Most of the counties have an average vehicle occupancy rate between 1.23 and 1.25 persons per vehicle.

**Table 5.4**  
**1990 Vehicle Occupancy by Trip Purpose**

County of Production/ Attraction	Home- Based Work	Home- Based Shop (Other)	Home- Based Social/Rec	Home- Based School	Non- Home-Based (Origin)	Total
San Francisco	1.186	1.229	1.383	1.702	1.263	1.263
	1.255	1.238	1.432	1.760	1.248	1.289
San Mateo	1.109	1.206	1.468	2.412	1.190	1.236
	1.088	1.215	1.451	2.483	1.202	1.230
Santa Clara	1.073	1.263	1.562	2.676	1.195	1.247
	1.070	1.263	1.563	2.598	1.194	1.243
Alameda	1.106	1.246	1.439	2.216	1.208	1.247
	1.095	1.239	1.424	2.132	1.212	1.240
Contra Costa	1.084	1.208	1.423	2.456	1.223	1.238
	1.078	1.205	1.432	2.618	1.218	1.243
Solano	1.124	1.290	1.387	2.918	1.202	1.284
	1.085	1.303	1.363	3.126	1.206	1.280
Napa	1.105	1.265	1.423	2.244	1.160	1.244
	1.109	1.250	1.463	2.174	1.165	1.245
Sonoma	1.070	1.190	1.660	2.685	1.226	1.242
	1.050	1.189	1.618	2.450	1.225	1.237
Marin	1.082	1.128	1.334	2.061	1.138	1.173
	1.081	1.122	1.370	2.491	1.135	1.183
Region	1.097	1.232	1.471	2.373	1.206	1.244
	1.097	1.232	1.471	2.373	1.206	1.244

Notes: Upper entry is vehicle occupancy rate by county of production.  
Lower entry is vehicle occupancy rate by county of attraction.

## **Appendix 1.0**

### **BACKGROUND**

1990 Household Travel Survey Questionnaire

San Francisco Bay Regional Map



## General and Detailed Trip Purpose and Travel Modes

(1990 Survey codes shown in parentheses)

### General Trip Purposes

- |         |                         |   |
|---------|-------------------------|---|
| 1. HBW  | Home-Based Work         | Home (1) <—><br>Work (2), Work-Related (3)  |
| 2. HBSH | Home-Based Shop (Other) | Home (1) <—><br>Personal Business (4), Medical/Dental (5),<br>Grocery Shopping (9), Other Shopping (10),<br>Child Care-Adult (12), Serve Adult Psgr (13),<br>Serve Child Psgr (14), Change Travel Mode (15),<br>Other (16), Child Care-Child (17) |
| 3. HBSR | Home-Based Social/Rec   | Home (1) <—><br>Visiting (6), Eat Meal (7), Recreation (8)  |
| 4. HBSK | Home-Based School       | Home (1) <—> School (11)  |
| 5. NHB  | Non-Home-Based          | Non-Home (2-17) <—> Non-Home (2-17)   |

### General Travel Modes

- |       |                      |  |
|-------|----------------------|--|
| 1. VD | Vehicle Driver       | Auto Driver (1), Truck Driver (3),<br>Van Driver (5), Motorcycle Driver (19)   |
| 2. VP | Vehicle Passenger    | Auto Passenger (2), Truck Passenger (4),<br>Van Passenger (6), Motorcycle Passenger (20)   |
| 3. TR | Transit Passenger    | Public Bus Passenger (8), Cable Car (10),<br>Streetcar (11), Shuttle Bus (12), Dial-a-Ride (13),<br>BART (14), CalTrain (15), AMTRAK (16),<br>Ferry Passenger (18) |
| 4. SB | School Bus Passenger | School Bus Passenger (9) (only HBSK trips)   |
| 5. BI | Bicycle              | Bicycle Rider (22)   |
| 6. WK | Walk                 | Walk (23)  |
| 7. OM | Other Means          | Taxi, Limo Passenger (7), Airplane (17),<br>Moped (21), Other (24)   |

# 1990 BAY AREA TRAVEL SURVEYS — TELEPHONE INTERVIEW FORM

OFFICE \_\_\_\_\_ INTERVIEWER \_\_\_\_\_ TRAVEL DAY \_\_\_\_\_ DATE \_\_\_\_/\_\_\_\_/\_\_\_\_  
 SAMPLE NUMBER \_\_\_\_\_ CO. \_\_\_\_\_ AREA CODE \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

## HOUSEHOLD AND HOUSING UNIT INFORMATION

A. First, I would like to ask you about vehicle ownership in your household. By this I mean owned, leased or used regularly by persons who live here:

1. How many autos, pickups, jeeps or recreational vehicles do you have? . . . . . \_\_\_\_\_
2. How many trucks, other than pickups, do you have? . . . . . \_\_\_\_\_
3. How many motorcycles in your household? . . . . . \_\_\_\_\_
4. How many mopeds? . . . . . \_\_\_\_\_
5. How many bicycles are owned, used and in working order in your household? . . . . . \_\_\_\_\_
6. Please tell me the year, make, and model for each of the autos, pickups, jeeps, trucks, and recreational vehicles in your household:

Year                      Make and Model

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

[POSTCODE]

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

B. How many persons, whether or not related to you, including yourself, live in your house? . . \_\_\_\_\_

How many of these are five years of age or older? . . . . . \_\_\_\_\_

C. What type of building do you live in?

- |                           |                    |                   |
|---------------------------|--------------------|-------------------|
| 1 = Single Family House   | 5 = Mobile Home    | } . . . . . _____ |
| 2 = Duplex Unit           | 6 = Motel/Hotel    |                   |
| 3 = Apartment             | 7 = Group Quarters |                   |
| 4 = Condominium/Townhouse |                    |                   |

D. How many years have you lived at your present address? . . . . . \_\_\_\_\_

[ IF LESS THAN 5 YEARS ]

What city did you live in previously? \_\_\_\_\_

\*P\* \_\_\_\_\_

E. Is your residence owned or rented by you or someone in your household?

- |             |                   |
|-------------|-------------------|
| 1 = Owned   | } . . . . . _____ |
| 2 = Rented  |                   |
| 3 = Unknown |                   |

NOTES:

OFFICE \_\_\_\_\_ INTERVIEWER \_\_\_\_\_ TRAVEL DAY \_\_\_\_\_ DATE \_\_\_\_ / \_\_\_\_ / \_\_\_\_ SAMPLE NUMBER \_\_\_\_\_  
 CO. \_\_\_\_\_ AREA CODE \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

## OCCUPANTS OF HOUSING UNIT INFORMATION

	A. FIRST NAMES & RELATION TO A	B. SEX	C. AGE	D. DRIVERS LICENSE	E. ETHNIC	F. EMPLOY STATUS	G. JOB	H. BUSINESS	I. WORK ADDRESS	J. HOW LONG	(If less than 5 years) PREVIOUS WORK CITY	K. DISABILITY	L.
A		M F		Y N								Y N	1 2 3 4 5
B		M F		Y N								Y N	1 2 3 4 5
C		M F		Y N								Y N	1 2 3 4 5
D		M F		Y N								Y N	1 2 3 4 5
E		M F		Y N								Y N	1 2 3 4 5
F		M F		Y N								Y N	1 2 3 4 5
G		M F		Y N								Y N	1 2 3 4 5
H		M F		Y N								Y N	1 2 3 4 5
I		M F		Y N								Y N	1 2 3 4 5
J		M F		Y N								Y N	1 2 3 4 5



OCCUPANTS OF HOUSING UNIT INFORMATION QUESTIONS

Now I would like to ask a few questions about each member of your household, 5 years old or older. These are necessary to better use the trip information you will be recording and providing the next time I call. [ IF NECESSARY ] This information will be kept and used in the strictest confidence for statistical and transportation planning purposes only.

- A. So I can keep track of the people of your household, please give me your first name and the first name of each person 5 years old and older in your household, and the relationship of each person to you.

[ ALLOW RELATIONSHIPS ONLY, WITHOUT NAMES ]

[ IF NECESSARY, ASK RESPONDENT: ] What is your primary relationship in your household?

[ ASK ONLY IF NECESSARY ]

(Are you)

- B. (Is *NAME*) male or female? ( M / F )

(your)

- C. What is (*NAME'S*) age?

[ ASK ONLY FOR AGE 16 OR OVER ]

(Do you)

- D. (Does *NAME*) have a valid drivers license? ( Y / N )

(your)

- E. What term would you use to describe (*NAME'S*) ethnic background?

0 = White

2 = Hispanic, Mexican

5 = Chinese

1 = Black

3 = Hispanic, other

6 = Japanese

4 = Native American,

7 = Vietnamese

Eskimo, Aleut

8 = Filipino

9 = Other Asian

(your)

- F. What is (*NAME'S*) current employment status?

[ SELECT ONE OR TWO CATEGORIES ]

1 = Employed full-time

4 = Student full-time

9 = Other

2 = Employed part-time

5 = Student part-time

3 = Retired

6 = Unemployed,  
looking for work

[ IF NOT EMPLOYED, SKIP NEXT 4 QUESTIONS  
AND GO TO QUESTION K ]

OCCUPANTS OF HOUSING UNIT INFORMATION QUESTIONS

(your)

G. What is (NAME'S) occupation?

- 1 = Executive, Administrative and Managerial
- 2 = Professional Specialties ( e.g., Engineer, Doctor, Teacher )
- 3 = Technicians and Related Support ( e.g., Health Tech, Lab Tech, Programmer, Legal Assistant )
- 4 = Sales
- 5 = Administrative Support, including Clerical
- 6 = Private Household ( e.g., Child Care, Maid )
- 7 = Protective Service ( e.g., Police, Fire, Guard )
- 8 = Service, except Private and Protective
- 9 = Farming, Forestry or Fishing
- 10 = Precision Production, Craft or Repair
- 11 = Machine Operators, Assemblers or Inspectors
- 12 = Transportation or Material Moving
- 13 = Handlers, Equipment Cleaners, Helpers or Laborers

(are you)

H. What kind of business (is NAME) in?

- 1 = Farming, Forestry, Fishing
- 2 = Mining
- 3 = Construction
- 4 = Manufacturing
- 5 = Transportation, Communications, Public Utilities
- 6 = Wholesale Trade
- 7 = Retail Trade
- 8 = Finance, Insurance, Real Estate
- 9 = Services
- 10 = Government, Public Admin

(you)

L. What is the address where (NAME) works? [ ADDRESS AND CITY ]

[ Please give a complete address if you can, or a well-known location, so we can locate it on a map for location coding. ]

(have you)

J. How long (has NAME) been working at this location?

[ IF WORKED AT THIS LOCATION FOR LESS THAN 5 YEARS ]

(you)

What city did (NAME) work in previously?

[ ASK QUESTION "K" ONCE, FOR EVERYONE IN HOUSEHOLD ]

K. Does anyone in your household have any physical, mental or other health condition which has lasted six months or more and which makes it difficult to use public transportation?

[ IF NO, SKIP TO RESPONDENT ADDRESS &amp; APPOINTMENT FORM ]

(you)

L. Compared to the average person, does this condition make it difficult for (NAME) to:  
[for each question, Y / N ]

- 1. Walk or go up to three blocks?
- 2. Board a standard transit bus?
- 3. Ride seated in a standard transit bus?
- 4. Ride in a taxicab?
- 5. Are there other situations that make it difficult for you to use public transportation?  
[ IF YES] Please specify.

# **MTC**

**METROPOLITAN  
TRANSPORTATION  
COMMISSION**

Alameda County  
DAVID S. KARP  
EDWARD R. CAMPBELL

Contra Costa County  
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Sonoma County  
WILLIAM R. LUCIUS

Association of  
Bay Area Governments  
DIANNE MCKENNA

S.F. Bay Conservation  
and Development  
Commission  
ANGELO J. SIRACUSA

State Business,  
Transportation and  
Housing Agency  
PRESTON KELLEY

Dear Bay Area Resident:

Recently you were called by a survey research interviewer working for the E. H. White Company under contract to the Metropolitan Transportation Commission. The Commission is conducting a survey throughout the Bay Area, the results of which will be used in determining the future transportation needs of this area.

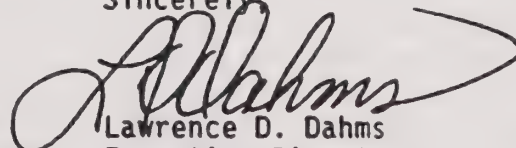
Thank you for agreeing to participate in this Bay Area Travel Survey. Enclosed are the materials described by the interviewer.

Please read the attached sheet carefully as it explains how to record information about the trips made by members of your household. If you have any general questions about the survey, please call the E. H. White Travel Study Hotline at 1-800-675-5610. If you wish to verify that this is a valid MTC survey, please call Shirley Rodenborn, MTC Project Manager, at (415) 464-7700.

Your participation in this survey is particularly important because the information gathered on people living in your household will be used to represent many people who live in the Bay Area. All the information you give will be treated in the strictest confidence and will be used for transportation planning purposes only.

Thank you for your cooperation.

Sincerely,

  
Lawrence D. Dahms  
Executive Director

Enclosure

Executive Director  
LAWRENCE D. DAHMS

LDD:SAR:my  
0472t/2

Deputy Executive Director  
WILLIAM F. HEIN



## USING THE TRIP DIARIES TO RECORD YOUR TRIPS

The Bay Area Travel Study requires information on how, when, where, and why people travel. The success of the survey and the usefulness of the results depend on how accurately you report all trips made during your assigned Three-day travel week by all household members age five and older. This includes visitors that are staying with you during the travel week.

We have enclosed \_\_\_\_\_ travel cards and ask that each household member fill out one of these cards recording all the trips he/she makes on your travel week. It is essential for our survey that you record your trips for each day of this travel week.

Some suggestions on filling out your cards:


1. WHEN YOU GO FROM ONE PLACE TO ANOTHER FOR ANY REASON, THIS IS A TRIP. For example, if on your way home from work you stop at a market and at the cleaners, record these as three separate trips.
2. Include all types of trips. For example, trips made by walking or bicycle as well as by car, bus, etc.
3. Any time you change the method by which you travel, this is a new trip. For example, if you drive to a friend's house and get in her/his car to go to work, shopping, etc., record these as two separate trips.
4. If members of your family or household make a group trip (for example, two or three of you ride at the same time in the same car or bus), record this trip on each person's trip card.
5. If you travel by bus, each time you transfer buses, record these as separate trips.
6. Please give as specific information as possible for the trip beginning and destination. For example, an exact address or the address range and street (e.g., 2700 block of Main St) and the city; the name of the BART station; the specific store (e.g., Macy's Union Square). We need this to assign geographic zone codes to each location.
7. Please write the purpose of each trip. Some examples are: work, home, food shopping, taking a child to child care, doctor, etc.

As arranged in our previous conversation, we will be calling you on \_\_\_\_\_ to gather the information recorded on these trip cards. At that time we would prefer to interview each member of your household, but if some household members are not available or are young children, we can take the information recorded on their travel cards from another responsible adult.

If you have questions about how to fill in your travel card--or any other question--please call our office at (415) 668-0076.

Again, thanks for your cooperation.

Sincerely,



Harold Charns  
Survey Project Director

# 1990 MTC AREA TRANSPORTATION STUDY YOUR TRIP RECORD FOR ONE DAY

Please carry this trip card with you and write down each trip you make on TRAVEL DAY MONDAY.  
When you go from one place to another for any reason, this is a trip.  
When you change your travel mode (car, bus, BART, bicycle, walk, etc.) this is a new trip.  
Please record an address if possible, or an easily identifiable location, where each trip begins and ends,  
as well as the times for each trip beginning and ending.

PERSON: JANE DOE

TRIP BEGINNING		TRIP DESTINATION		DESTINATION PURPOSE	TRAVEL MODE (car, bus, BART, walk, etc.)	PARKING COST or TRANSIT FARE (and how paid)	NUM. IN CAR
START TIME	ADDRESS AND CITY	ADDRESS AND CITY	END TIME				
7:30 AM	1273 19 <sup>th</sup> AVE. OAKLAND	19 <sup>th</sup> AVE & GRAND AVE. OAKLAND	7:35	WORK	WALK		
7:45		14 <sup>th</sup> & BROADWAY OAKLAND	8:00	WORK	BUS	.85 CASH	
8:05		MONTGOMERY BART SAN FRANCISCO	8:28	WORK	BART	1.60 TICKET	
8:28		101 CALIFORNIA ST. SAN FRANCISCO	8:35	WORK	WALK		
Please turn card over and continue							

TRIP BEGINNING		TRIP DESTINATION		DESTINATION PURPOSE	TRAVEL MODE (car, bus, BART, walk, etc.)	PARKING COST or TRANSIT FARE (and how paid)	NUM. IN CAR
START TIME	ADDRESS AND CITY	ADDRESS AND CITY	END TIME				
12:10	101 CALIFORNIA ST. SAN FRANCISCO	427 MARKET ST. SAN FRANCISCO	12:20	LUNCH	WALK		
1:05		101 CALIFORNIA ST. SF	1:15	WORK	WALK		
5:05		4 <sup>th</sup> & MARKET SF	5:10	HOME	WALK		
5:11		1273 19 <sup>th</sup> AVE. OAKLAND	6:05	HOME	CAR		3
8:00		SAFEWAY - 1406 26 <sup>th</sup> ST. OAKLAND	8:10	SHOP	CAR		2
9:00		1273 19 <sup>th</sup> AVE. OAKLAND	9:10	HOME	CAR		2

All information will be kept completely confidential and used for transportation planning purposes only.



# 1990 MTC AREA TRANSPORTATION STUDY YOUR TRIP RECORD FOR ONE DAY

Please carry this trip card with you and write down each trip you make on TRAVEL DAY \_\_\_\_\_.

When you go from one place to another for any reason, this is a trip.

When you change your travel mode (car, bus, BART, bicycle, walk, etc.) this is a new trip.

Please record an address if possible, or an easily identifiable location, where each trip begins and ends, as well as the times for each trip beginning and ending.

PERSON: \_\_\_\_\_.

TRIP BEGINNING		TRIP DESTINATION		DESTINATION PURPOSE	TRAVEL MODE (car, bus, BART, walk, etc.)	PARKING COST or TRANSIT FARE (and how paid)	NUM. IN CAR
START TIME	ADDRESS AND CITY	ADDRESS AND CITY	END TIME				

*Please turn card over and continue*

TRIP BEGINNING		TRIP DESTINATION		DESTINATION PURPOSE	TRAVEL MODE (car, bus, BART, walk, etc.)	PARKING COST or TRANSIT FARE (and how paid)	NUM. IN CAR
START TIME	ADDRESS AND CITY	ADDRESS AND CITY	END TIME				

*All information will be kept completely confidential and used for transportation planning purposes only.*



# 1990 BAY AREA TRAVEL SURVEYS - - TELEPHONE INTERVIEW FORM - - TRIP INFORMATION

PAGE \_\_ OF \_\_

OFFICE \_\_\_\_\_ INTERVIEWER \_\_\_\_\_ TRAVEL DAY \_\_\_\_\_ DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

SAMPLE NUMBER \_\_\_\_\_  
CO. \_\_\_\_\_ AREA CODE \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

PER TRV DAY	SON LTR	TRP NO.	A. ORIGIN (ADDRESS & CITY)	B. DESTINATION (ADDRESS & CITY)	C. HOW TRAVEL	D. PURPOSE	E. START TIME	F. END TIME	G. NO. IN VEH. IF >1 PRE-ARR	H. WHICH VEHICLE	I. TYPE PARKING	J. PARKING COST	K. TIME UNIT	L. BRIDGES	M. TRANSIT OPR.	N. HOW FARE PAID	O. HOW MUCH	P. OR PASS TYPE
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									
							A	A	Y									
							P	P	N									

NOTES:

EARTHQUAKE IMPACTS:

**TRIP INFORMATION - QUESTIONS**

( first )

A. For the ( next ) trip, where did this trip begin?

[ PROMPT ] Please give me the exact address, specific intersecting streets, or a well-known place, and the city.

B. Where did this trip end? [ SAME PROMPT AS TRIP BEGINNING ]

C. On this trip, how did you travel?

- |                                    |                                 |
|------------------------------------|---------------------------------|
| 1 = Auto Driver                    | 13 = Dial-A-Ride Passenger      |
| 2 = Auto Passenger                 | 14 = BART Passenger             |
| 3 = Truck Driver                   | 15 = Southern Pacific Passenger |
| 4 = Truck Passenger                | 16 = AMTRAK Passenger           |
| 5 = Van Driver                     | 17 = Airplane Passenger         |
| 6 = Van Passenger                  | 18 = Ferry Passenger            |
| 7 = Taxi or Limo Passenger         | 19 = Motorcycle Driver          |
| 8 = Public Bus Passenger [SPECIFY] | 20 = Motorcycle Passenger       |
| 9 = School Bus Passenger           | 21 = Moped                      |
| 10 = Cable Car Passenger           | 22 = Bicycle                    |
| 11 = Streetcar Passenger           | 23 = Walk                       |
| 12 = Shuttle Bus Passenger         | 24 = Other [SPECIFY]            |

D. What was the purpose of this trip?

- |                       |                                    |
|-----------------------|------------------------------------|
| 1 = Home              | 9 = Grocery Shopping               |
| 2 = Work              | 10 = Non-Grocery Shopping          |
| 3 = Work-Related      | 11 = Education                     |
| 4 = Personal Business | 12 = Child Care (Child / Provider) |
| 5 = Medical / Dental  | 13 = Serve Adult Passenger         |
| 6 = Visiting          | 14 = Other Serve Child Passenger   |
| 7 = Eat Meal          | 15 = Change Travel Mode            |
| 8 = Recreation        | 16 = Other                         |

E. What time did this trip start?

[ AS NEEDED ] Was this in the morning or afternoon?

F. What time did this trip end?

(What time did you get to < DESTINATION > ?)

[ IF PUBLIC TRANSIT USED, SKIP TO QUESTION K . ]

G. How many people were in the vehicle?

[ IF MORE THAN ONE PERSON IN VEHICLE ]

Was this trip pre-arranged with the other people in the vehicle?

TRIP INFORMATION - QUESTIONS (Cont.)

H. Which of your vehicles was used for this trip?

[ RECORD VEHICLE NUMBER FROM HOUSING UNIT QUESTION A - 6 ]

I. What type of parking did you use?

1 = On-Street, free

2 = On-Street, paid

3 = Employee lot / garage

4 = Lot / Garage, free

5 = Lot / Garage, paid

6 = Service / Repair

7 = Resident parking

8 = Cruising

9 = Not parked

[ IF PARKING IS PAID, NOT FREE ]

J. How much did you pay for parking?

[ IF NOT PAID AT TIME ] How much do you pay, and how often?

[ RECORD AMOUNT IF ONE TIME, AMOUNT AND UNIT TIME IF REGULAR ]

K. If you crossed any bridges, which ones did you cross?

1 = San Francisco Bay

2 = Golden Gate

3 = San Mateo / Hayward

4 = Dumbarton

5 = Carquinez

6 = Antioch

7 = Benicia / Martinez

8 = Richmond / San Rafael

9 = None crossed

[ IF PUBLIC TRANSIT USED ]

[ MAKE SURE BUS OPERATOR IS RECORDED IN QUESTION C ]

L. How was the fare paid for this trip?

1 = Cash -----> How much was the fare?

2 = Pass -----> What type of pass, and how much did it cost?

3 = Transfer -----> Was it free or did you have to pay for it?

4 = Ticket / Token

5 = Other [ SPECIFY ]

[ AFTER ALL TRIPS ARE RECORDED FOR THE HOUSEHOLD ]

M. Have travel patterns changed for anyone in your household because of the earthquake?

[ IF YES ] Could you tell me, briefly, how your travel has changed?

[ CONTINUE WITH END FORM ]



# 1990 BAY AREA TRAVEL SURVEYS — TELEPHONE INTERVIEW FORM

SAMPLE NUMBER \_\_\_\_\_ COUNTY \_\_\_\_\_ AREA CODE \_\_\_\_\_ TELEPHONE NUMBER \_\_\_\_\_

## [ RESPONDENT ADDRESS AND APPOINTMENT FORM ] [ RECORD AT END OF OCCUPANT INFORMATION ]

Thank you for your help in this portion of our survey. The last thing I need is your address to mail the trip diary cards. As I mentioned, we would like you and every person in your household 5 years old and over to record every trip or trip segment you make for (AN ENTIRE DAY) (SEVERAL DAYS). I will call you backon \_\_\_\_\_ (DAY AND DATE) after you have completed the trip diary(IES) to record the trip information.

### [ FOR MULTI-DAY TRIP DIARY HOUSEHOLDS ]

You will receive <THE INCENTIVE> when the survey is completed.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

### END FORM [ COMPLETE AFTER TRAVEL INTERVIEW ]

Now, I have only three more questions to ask you to finish this interview.

- F. Would you be willing to repeat this interview, including the trip diaries, in about a year or so? 1 = Yes  
2 = No

#### [ IF YES ]

So we can be sure to find you for the next survey, would you please tell me the name and address of a close friend or relative not living with you who will always know how to find you?

Name \_\_\_\_\_

Ad-  
dress \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

#### [ IF NO ]

So we can better understand the reasons why some people won't be part of the survey next year, could you give me a brief reason why you are not willing to repeat this interview next year?

\_\_\_\_\_

- G. And finally, for statistical and travel forecasting purposes, we need to know your total household income before taxes. I will read several income ranges to you. Please stop me when we reach the right one.

- |                          |                           |                             |
|--------------------------|---------------------------|-----------------------------|
| 1 = less than \$5,000    | 7 = \$30,000 to \$34,999  | 13 = \$75,000 to \$99,999   |
| 2 = \$5,000 to \$9,999   | 8 = \$35,000 to \$39,999  | 14 = \$100,000 to \$124,999 |
| 3 = \$10,000 to \$14,999 | 9 = \$40,000 to \$44,999  | 15 = \$125,000 and over     |
| 4 = \$15,000 to \$19,999 | 10 = \$45,000 to \$49,999 |                             |
| 5 = \$20,000 to \$24,999 | 11 = \$50,000 to \$59,999 | 88 = Don't know             |
| 6 = \$25,000 to \$29,999 | 12 = \$60,000 to \$74,999 | 99 = Refused                |

THANK YOU VERY MUCH FOR YOUR COOPERATION



# **SAN FRANCISCO BAY AREA**

## Appendix 2.0

### WEEKDAY 1990 REGIONAL TRAVEL



**Table 2.2.2A**  
**1990 Regional Weekday Trips by Detailed Purpose at Origin and Destination**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	TOTAL
1. Home	15,064	2,244,527	157,415	629,394	159,637	210,767	224,004	444,748	307,376	328,505	896,827	38,424	130,152	250,041	32,130	101,125	26,375	6,196,511
2. Work	1,891,422	185,626	231,031	189,973	33,452	36,162	291,547	76,976	77,704	83,831	21,581	2,792	9,555	12,161	7,662	16,708	291	3,168,474
3. Work-Related	178,618	163,616	344,626	28,974	2,633	3,623	37,663	8,024	13,983	10,292	2,406	0	1,253	382	1,359	3,738	0	801,190
4. Personal Business	601,833	115,619	19,392	242,810	13,383	29,676	69,671	27,808	79,867	91,251	8,410	1,384	5,855	4,590	3,113	10,557	219	1,325,438
5. Medical/Dental	136,324	16,872	2,835	15,610	10,415	6,652	9,478	3,362	17,267	22,722	3,448	1,162	221	1,732	0	1,955	1,168	251,223
6. Visiting	243,746	14,086	3,149	24,746	4,801	21,962	22,522	15,586	16,039	17,649	16,520	0	1,288	1,419	1,263	5,354	4,911	415,041
7. Eat Meal	278,582	281,885	28,439	42,810	3,982	18,676	10,918	29,232	22,230	40,255	16,103	323	4,677	2,266	1,541	9,684	323	791,926
8. Recreation	456,584	34,834	4,350	27,445	3,639	15,925	35,533	62,058	21,015	14,986	10,830	947	2,749	1,512	1,704	3,342	865	698,318
9. Grocery Shopping	511,410	26,069	1,209	33,937	3,651	14,674	11,759	3,832	23,628	25,639	2,263	634	1,665	2,744	0	5,175	450	668,739
10. Other Shopping	424,407	41,385	4,380	47,425	5,079	24,191	34,972	9,590	58,270	139,032	1,630	971	2,319	1,585	966	5,587	140	801,929
11. Education	774,550	34,965	2,770	29,354	7,467	23,936	24,505	25,874	9,063	11,815	43,823	236	980	5,218	4,559	10,691	20,714	1,030,520
12. Child Care (Adult)	39,429	2,232	0	979	597	483	472	104	567	657	177	1,442	0	528	0	175	0	47,842
13. Serve Adult Psgr.	128,848	3,168	597	7,275	1,943	1,608	5,477	2,402	3,026	3,031	1,426	0	5,883	0	231	0	0	164,915
14. Serve Child Psgr.	244,380	5,400	236	4,895	2,098	2,684	2,649	2,635	5,477	6,945	2,481	287	0	8,067	257	429	328	289,248
15. Change Travel	23,363	11,141	1,268	1,701	206	2,104	1,905	1,553	2,728	436	4,309	0	123	0	948	288	0	52,073
16. Other	96,512	14,842	2,446	9,632	1,063	6,228	10,535	4,837	9,072	7,054	7,359	217	790	257	204	33,399	376	204,823
17. Child Care (Child)	37,949	1,054	0	478	339	3,933	654	1,935	2,546	796	5,254	0	0	808	0	410	2,039	58,195
TOTAL	6,083,021	3,197,321	804,143	1,337,438	254,385	423,284	794,264	720,556	669,858	804,896	1,044,847	48,819	167,510	293,310	55,937	208,617	58,199	16,966,405

TABLE 2.3.1A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
TOTAL MODES (1990 SURVEY CODES 1-24)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	3972	.2	0	.0	0	.0	1914	.0	9919	.2	1467	.0	13301	.1
50- 99	453	.0	4463	.2	0	.0	124	.0	2059	.0	11900	.2	810	.0	14768	.1
100- 149	433	.0	7141	.3	0	.0	0	.0	1801	.0	13282	.2	756	.0	15839	.1
150- 199	0	.0	2076	.1	0	.0	0	.0	331	.0	5002	.1	2962	.1	8296	.0
200- 249	722	.0	3708	.2	0	.0	0	.0	1490	.0	6827	.1	760	.0	9076	.1
250- 299	1508	.1	2355	.1	0	.0	0	.0	1508	.0	6913	.1	282	.0	8702	.1
300- 349	4198	.2	3838	.2	0	.0	169	.0	5000	.1	4540	.1	495	.0	10035	.1
350- 399	3225	.1	880	.0	0	.0	0	.0	3610	.1	830	.0	385	.0	4874	.0
400- 449	7202	.3	2002	.1	0	.0	0	.0	8181	.1	2210	.0	1124	.0	11515	.1
450- 499	20387	.8	908	.0	0	.0	238	.0	22573	.4	1360	.0	2959	.1	26892	.2
500- 549	44702	1.9	1333	.1	1117	.1	0	.0	55452	.9	1699	.0	2715	.1	59866	.4
550- 599	98243	4.1	1927	.1	2449	.3	324	.0	119224	1.9	7748	.1	5067	.1	132039	.8
600- 649	169428	7.1	4538	.2	7598	.8	427	.1	204353	3.3	10266	.2	10898	.2	225517	1.3
650- 699	253806	10.6	3289	.2	22439	2.5	0	.0	314400	5.1	11662	.2	17405	.4	343467	2.0
700- 749	330390	13.8	8001	.4	105840	11.8	807	.1	497271	8.1	22341	.4	43354	.9	562965	3.3
750- 799	381207	15.9	6572	.3	242113	27.0	1316	.2	741888	12.0	33886	.6	64869	1.4	840644	5.0
800- 849	302075	12.6	6916	.3	275566	30.7	1637	.2	726185	11.8	65915	1.1	86812	1.8	878911	5.2
850- 899	181426	7.6	5293	.3	79778	8.9	1386	.2	361132	5.8	51842	.9	101939	2.2	514913	3.0
900- 949	104123	4.3	5780	.3	34903	3.9	2271	.3	263170	4.3	45328	.7	100784	2.1	409282	2.4
950- 999	58559	2.4	5771	.3	17134	1.9	2816	.4	173715	2.8	56183	.9	116803	2.5	346700	2.0
1000-1049	44760	1.9	6735	.3	8339	.9	3218	.4	185866	3.0	65604	1.1	148364	3.1	399833	2.4
1050-1099	27904	1.2	6452	.3	6025	.7	2449	.3	120139	1.9	67657	1.1	162779	3.5	350574	2.1
1100-1149	24572	1.0	11306	.5	6875	.8	10030	1.3	148104	2.4	95858	1.6	201085	4.3	445047	2.6
1150-1199	18800	.8	17294	.8	10212	1.1	12762	1.6	114263	1.9	124409	2.1	276751	5.9	515423	3.0
1200-1249	20154	.8	38542	1.9	5026	.6	34836	4.5	113086	1.8	179153	3.0	372882	7.9	665119	3.9
1250-1299	25670	1.1	19845	1.0	6797	.8	14879	1.9	95019	1.5	121433	2.0	318136	6.7	534586	3.2
1300-1349	28320	1.2	26900	1.3	3655	.4	17270	2.2	124945	2.0	123727	2.0	303961	6.4	552633	3.3
1350-1399	20460	.9	21820	1.1	3447	.4	29678	3.8	96173	1.6	142469	2.4	242909	5.2	481550	2.8
1400-1449	20754	.9	41663	2.0	2292	.3	68694	8.9	117911	1.9	206654	3.4	247484	5.2	572049	3.4
1450-1499	23297	1.0	51203	2.5	4141	.5	176103	22.7	112167	1.8	369091	6.1	229025	4.9	710285	4.2
1500-1549	26277	1.1	99603	4.8	2440	.3	178831	23.1	127382	2.1	434299	7.2	228951	4.9	790631	4.7
1550-1599	14453	.6	128243	6.2	3623	.4	49228	6.4	89973	1.5	303896	5.0	195069	4.1	588937	3.5
1600-1649	17727	.7	174589	8.5	2429	.3	31686	4.1	120616	2.0	348714	5.8	178433	3.8	647763	3.8
1650-1699	20632	.9	214283	10.4	2545	.3	21135	2.7	114383	1.9	381247	6.3	178250	3.8	673881	4.0
1700-1749	13428	.6	363360	17.6	3272	.4	22547	2.9	116291	1.9	571490	9.4	201273	4.3	889055	5.2
1750-1799	17821	.7	202086	9.8	5968	.7	16522	2.1	139576	2.3	368326	6.1	125877	2.7	633777	3.7
1800-1849	11462	.5	167357	8.1	7618	.8	13150	1.7	144588	2.3	342657	5.7	121867	2.6	609112	3.6
1850-1899	11958	.5	85203	4.1	8511	.9	4563	.6	142353	2.3	224553	3.7	79964	1.7	446869	2.6
1900-1949	7244	.3	71814	3.5	6511	.7	4264	.6	159801	2.6	202943	3.4	77453	1.6	440196	2.6
1950-1999	6736	.3	38001	1.8	5174	.6	4364	.6	94217	1.5	160590	2.7	60881	1.3	315688	1.9
2000-2049	6848	.3	32712	1.6	2134	.2	6206	.8	63915	1.0	159295	2.6	59856	1.3	280066	1.7
2050-2099	3096	.1	24909	1.2	276	.0	5374	.7	36554	.6	136342	2.3	37619	.8	210515	1.2
2100-2149	3127	.1	33444	1.6	0	.0	9460	1.2	26091	.4	156106	2.6	32399	.7	214596	1.3
2150-2199	3546	.1	25437	1.2	0	.0	10581	1.4	21552	.3	122454	2.0	22743	.5	166748	1.0
2200-2249	5429	.2	23836	1.2	0	.0	10028	1.3	16516	.3	107758	1.8	18072	.4	142346	.8
2250-2299	5192	.2	13377	.6	0	.0	1679	.2	9412	.2	62189	1.0	14750	.3	86352	.5
2300-2349	4434	.2	23723	1.2	0	.0	1913	.2	10585	.2	64059	1.1	9665	.2	84308	.5
2350-2399	3278	.1	16963	.8	367	.0	1165	.2	6852	.1	42611	.7	6466	.1	55930	.3
TOTAL	2399792	100.0	2061463	100.0	896614	100.0	774127	100.0	6173580	100.0	6055287	100.0	4715609	100.0	16944470	100.0



TABLE 2.3.2A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
TOTAL MODES (1990 SURVEY CODES 1-24)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	1812	.1	0	.0	0	.0	1467	.0	5924	.1	1452	.0	8843	.1
50- 99	138	.0	6523	.3	0	.0	124	.0	2264	.0	13356	.2	979	.0	16598	.1
100- 149	688	.0	6222	.3	0	.0	0	.0	1211	.0	13718	.2	547	.0	15476	.1
150- 199	0	.0	2304	.1	0	.0	0	.0	561	.0	7381	.1	2603	.1	10545	.1
200- 249	471	.0	3710	.2	0	.0	0	.0	637	.0	8481	.1	1100	.0	10219	.1
250- 299	926	.0	2536	.1	0	.0	0	.0	1529	.0	5061	.1	511	.0	7101	.0
300- 349	2567	.1	4455	.2	0	.0	0	.0	3369	.1	6729	.1	889	.0	10987	.1
350- 399	2918	.1	1689	.1	0	.0	169	.0	3303	.1	2620	.0	385	.0	6308	.0
400- 449	3833	.2	2236	.1	0	.0	0	.0	4812	.1	2236	.0	420	.0	7469	.0
450- 499	9813	.4	1168	.1	0	.0	238	.0	10505	.2	1614	.0	1397	.0	13516	.1
500- 549	17369	.7	880	.0	1117	.1	0	.0	21944	.4	1093	.0	1418	.0	24456	.1
550- 599	51649	2.2	392	.0	1179	.1	324	.0	68585	1.1	2975	.0	6064	.1	77624	.5
600- 649	92546	3.9	3797	.2	4416	.5	427	.1	118438	1.9	11035	.2	4056	.1	133529	.8
650- 699	182632	7.6	5349	.3	8566	1.0	0	.0	218748	3.5	10922	.2	13110	.3	242780	1.4
700- 749	258839	10.8	5724	.3	44788	5.0	269	.0	355976	5.8	16407	.3	30011	.6	402393	2.4
750- 799	357987	14.9	5577	.3	177264	19.8	862	.1	613446	9.9	27129	.4	45045	1.0	685621	4.0
800- 849	388523	16.2	6776	.3	324121	36.1	2307	.3	854307	13.8	60224	1.0	84575	1.8	999107	5.9
850- 899	284941	11.9	6791	.3	144583	16.1	1158	.1	557652	9.0	59670	1.0	93518	2.0	710839	4.2
900- 949	180271	7.5	7236	.4	50092	5.6	1710	.2	345476	5.6	44108	.7	96447	2.0	486030	2.9
950- 999	83724	3.5	4121	.2	20785	2.3	3322	.4	208222	3.4	46289	.8	111270	2.4	365780	2.2
1000-1049	61607	2.6	6979	.3	14271	1.6	2571	.3	206791	3.3	61122	1.0	142006	3.0	409918	2.4
1050-1099	34825	1.5	7155	.3	6729	.8	3065	.4	134608	2.2	69244	1.1	147264	3.1	351114	2.1
1100-1149	27767	1.2	8372	.4	7573	.8	4939	.6	160251	2.6	74600	1.2	185813	3.9	420664	2.5
1150-1199	21407	.9	14055	.7	9768	1.1	9761	1.3	116991	1.9	108319	1.8	250515	5.3	475826	2.8
1200-1249	20223	.8	31675	1.5	6048	.7	29293	3.8	121182	2.0	161160	2.7	366850	7.8	649191	3.8
1250-1299	21243	.9	21342	1.0	7328	.8	20680	2.7	95555	1.5	142543	2.4	296933	6.3	535029	3.2
1300-1349	31440	1.3	30113	1.5	5174	.6	13817	1.8	127045	2.1	124290	2.1	325100	6.9	576435	3.4
1350-1399	23991	1.0	16995	.8	3514	.4	26704	3.4	94649	1.5	121245	2.0	252687	5.4	468580	2.8
1400-1449	18636	.8	31769	1.5	2458	.3	37183	4.8	113293	1.8	166610	2.8	232359	4.9	512262	3.0
1450-1499	18041	.8	37328	1.8	3734	.4	109364	14.1	104481	1.7	258681	4.3	237160	5.0	600323	3.5
1500-1549	26475	1.1	66290	3.2	4079	.5	191022	24.7	136562	2.2	402675	6.6	242275	5.1	781513	4.6
1550-1599	24454	1.0	90405	4.4	2459	.3	109765	14.2	109237	1.8	336500	5.6	199868	4.2	645605	3.8
1600-1649	13764	.6	131241	6.4	2329	.3	44710	5.8	99838	1.6	317252	5.2	188502	4.0	605591	3.6
1650-1699	22116	.9	163924	8.0	2889	.3	27798	3.6	124221	2.0	329554	5.4	172266	3.7	626041	3.7
1700-1749	16681	.7	269623	13.1	3211	.4	31231	4.0	112966	1.8	473656	7.8	199858	4.2	786482	4.6
1750-1799	16486	.7	270767	13.1	3958	.4	15922	2.1	133831	2.2	454519	7.5	159073	3.4	747424	4.4
1800-1849	14367	.6	245880	11.9	7585	.8	18504	2.4	141765	2.3	443897	7.3	133105	2.8	718767	4.2
1850-1899	12183	.5	142106	6.9	6710	.7	7891	1.0	132106	2.1	283615	4.7	101823	2.2	517545	3.1
1900-1949	8898	.4	108890	5.3	8832	1.0	5439	.7	164718	2.7	254029	4.2	85492	1.8	504238	3.0
1950-1999	6578	.3	60680	2.9	6012	.7	5531	.7	123810	2.0	188385	3.1	72728	1.5	384922	2.3
2000-2049	6378	.3	44608	2.2	3780	.4	3434	.4	76894	1.2	162862	2.7	60724	1.3	300479	1.8
2050-2099	5818	.2	31666	1.5	707	.1	7501	1.0	49015	.8	160037	2.6	48071	1.0	257123	1.5
2100-2149	3567	.1	30445	1.5	0	.0	6415	.8	28914	.5	146644	2.4	34216	.7	209774	1.2
2150-2199	2231	.1	28425	1.4	188	.0	8136	1.1	19585	.3	127643	2.1	25656	.5	172884	1.0
2200-2249	2104	.1	24904	1.2	0	.0	12315	1.6	17998	.3	112654	1.9	20816	.4	151468	.9
2250-2299	7339	.3	16076	.8	0	.0	6163	.8	11733	.2	76904	1.3	13532	.3	102170	.6
2300-2349	6916	.3	23206	1.1	0	.0	1035	.1	14027	.2	72232	1.2	14756	.3	101015	.6
2350-2399	4036	.2	27248	1.3	367	.0	3029	.4	9064	.1	77443	1.3	10363	.2	96870	.6
TOTAL	2399792	100.0	2061463	100.0	896614	100.0	774127	100.0	6173580	100.0	6055287	100.0	4715609	100.0	16944470	100.0



TABLE 2.3.3A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
PERSON MODES (1990 SURVEY CODES 1-6,8-16,18,19,20)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	3753	.2	0	.0	0	.0	1914	.0	9700	.2	1467	.0	13081	.1
50- 99	453	.0	4463	.2	0	.0	124	.0	2059	.0	11594	.2	641	.0	14294	.1
100- 149	160	.0	6818	.3	0	.0	0	.0	1529	.0	12069	.2	756	.0	14354	.1
150- 199	0	.0	2076	.1	0	.0	0	.0	331	.0	5002	.1	1561	.0	6894	.0
200- 249	722	.0	3487	.2	0	.0	0	.0	1208	.0	6605	.1	760	.0	8573	.1
250- 299	1508	.1	2355	.1	0	.0	0	.0	1508	.0	6631	.1	282	.0	8420	.1
300- 349	3695	.2	3838	.2	0	.0	0	.0	4497	.1	4371	.1	495	.0	9363	.1
350- 399	3225	.1	880	.0	0	.0	0	.0	3610	.1	880	.0	385	.0	4874	.0
400- 449	7202	.3	2002	.1	0	.0	0	.0	8181	.1	2210	.0	882	.0	11273	.1
450- 499	20387	.9	908	.0	0	.0	238	.0	22573	.4	1360	.0	2959	.1	26892	.2
500- 549	44130	1.9	1333	.1	1117	.2	0	.0	53357	1.0	1699	.0	2715	.1	57771	.4
550- 599	96339	4.2	1780	.1	1486	.2	0	.0	115243	2.1	6885	.1	4730	.1	126858	.8
600- 649	167926	7.3	4538	.2	6567	1.0	0	.0	197684	3.6	3848	.2	9420	.2	215953	1.4
650- 699	246316	10.7	3024	.2	19757	2.9	0	.0	299144	5.4	9617	.2	15247	.4	324008	2.2
700- 749	320718	14.0	7826	.4	92878	13.6	807	.1	466638	8.4	19653	.4	36194	.9	522486	3.5
750- 799	364392	15.9	6305	.3	174870	25.5	1316	.2	645081	11.7	30049	.6	56333	1.4	731464	4.9
800- 849	289353	12.6	6174	.3	195314	28.5	1458	.3	615311	11.1	54702	1.0	72882	1.8	742895	5.0
850- 899	168764	7.4	5293	.3	58724	8.6	1386	.3	317287	5.7	43121	.8	82566	2.1	442973	3.0
900- 949	96639	4.2	5348	.3	30485	4.5	1957	.4	238170	4.3	38418	.7	89356	2.2	365942	2.4
950- 999	51833	2.3	5388	.3	11889	1.7	2305	.4	150693	2.7	46479	.9	103535	2.6	300707	2.0
1000-1049	42147	1.8	6290	.3	7791	1.1	2340	.4	165361	3.0	54675	1.0	130490	3.3	350525	2.3
1050-1099	26360	1.1	6452	.3	4630	.7	1651	.3	107561	1.9	59613	1.1	149394	3.7	316568	2.1
1100-1149	21727	.9	10947	.6	4310	.6	9414	1.7	129910	2.4	83735	1.5	176703	4.4	390348	2.6
1150-1199	16961	.7	17042	.9	9730	1.4	8600	1.6	100964	1.8	109819	2.0	229456	5.7	440239	2.9
1200-1249	18541	.8	35672	1.8	4004	.6	25596	4.6	101510	1.8	159262	2.9	280408	7.0	541179	3.6
1250-1299	24848	1.1	16869	.9	6497	.9	10702	1.9	86303	1.6	105449	1.9	245463	6.1	437215	2.9
1300-1349	27770	1.2	22753	1.2	3479	.5	12391	2.2	112597	2.0	104136	1.9	245011	6.1	461743	3.1
1350-1399	18927	.8	21083	1.1	2816	.4	21067	3.8	86717	1.6	128148	2.4	199829	5.0	414694	2.8
1400-1449	20565	.9	39869	2.0	1834	.3	49829	9.0	106275	1.9	176824	3.3	210170	5.2	493268	3.3
1450-1499	21827	1.0	48514	2.5	3590	.5	105990	19.1	102706	1.9	284945	5.3	192030	4.8	579681	3.9
1500-1549	23521	1.0	95935	4.9	2110	.3	117827	21.3	108492	2.0	355313	6.6	198170	4.9	661974	4.4
1550-1599	12473	.5	125873	6.4	2698	.4	33955	6.1	73618	1.3	272930	5.0	171429	4.3	517977	3.5
1600-1649	16817	.7	168272	8.6	2170	.3	27294	4.9	104821	1.9	323581	6.0	158752	4.0	587153	3.9
1650-1699	18767	.8	207932	10.6	2278	.3	18870	3.4	99366	1.8	359404	6.6	158287	3.9	617057	4.1
1700-1749	12665	.6	347030	17.6	1647	.2	18923	3.4	100703	1.8	531485	9.8	183038	4.6	815227	5.4
1750-1799	15826	.7	193345	9.8	5735	.8	15573	2.8	126952	2.3	346198	6.4	111209	2.8	584358	3.9
1800-1849	11462	.5	157209	8.0	7435	1.1	10517	1.9	132567	2.4	316299	5.8	107479	2.7	556345	3.7
1850-1399	11111	.5	80326	4.1	8137	1.2	3686	.7	129610	2.3	205454	3.8	73125	1.8	408188	2.7
1900-1949	6943	.3	66873	3.4	5409	.8	3515	.6	147578	2.7	181950	3.4	69045	1.7	398572	2.7
1950-1999	6736	.3	35546	1.8	3320	.5	3490	.6	81336	1.5	143741	2.7	54340	1.4	279416	1.9
2000-2049	6848	.3	31702	1.6	1704	.2	5714	1.0	56783	1.0	144220	2.7	55387	1.4	256390	1.7
2050-2099	2875	.1	24909	1.3	276	.0	5202	.9	32830	.6	129798	2.4	34911	.9	197539	1.3
2100-2149	2476	.1	32355	1.6	0	.0	8260	1.5	24714	.4	149038	2.7	29639	.7	203391	1.4
2150-2199	3249	.1	24524	1.2	0	.0	10367	1.9	18947	.3	115252	2.1	19694	.5	153892	1.0
2200-2249	5316	.2	22118	1.1	0	.0	9331	1.7	15960	.3	100790	1.9	16402	.4	133152	.9
2250-2299	5017	.2	12838	.7	0	.0	1679	.3	9237	.2	57441	1.1	12763	.3	79442	.5
2300-2349	4167	.2	22545	1.1	0	.0	1913	.3	10318	.2	62372	1.2	8970	.2	81660	.5
2350-2399	3278	.1	15067	.8	367	.1	738	.1	6852	.1	40022	.7	5558	.1	52433	.4
TOTAL	2293308	100.0	1967478	100.0	685054	100.0	554026	100.0	5526606	100.0	5421786	100.0	4010318	100.0	14958701	100.0

TABLE 2.3.4A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
PERSON MODES (1990 SURVEY CODES 1-6,8-16,18,19,20)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	1592	.1	0	.0	0	.0	1467	.0	5704	.1	1452	.0	8624	.1
50- 99	198	.0	6523	.3	0	.0	124	.0	2264	.0	13050	.2	979	.0	16293	.1
100- 149	415	.0	6222	.3	0	.0	0	.0	939	.0	13213	.2	378	.0	14530	.1
150- 199	0	.0	2304	.1	0	.0	0	.0	561	.0	6996	.1	1202	.0	8759	.1
200- 249	471	.0	3386	.2	0	.0	0	.0	637	.0	8158	.2	1100	.0	9895	.1
250- 299	926	.0	2315	.1	0	.0	0	.0	1247	.0	4558	.1	511	.0	6316	.0
300- 349	2064	.1	4455	.2	0	.0	0	.0	2866	.1	6729	.1	889	.0	10484	.1
350- 399	2918	.1	1689	.1	0	.0	0	.0	3303	.1	2451	.0	385	.0	6139	.0
400- 449	3833	.2	2236	.1	0	.0	0	.0	4812	.1	2236	.0	420	.0	7469	.0
450- 499	3813	.2	1168	.1	0	.0	238	.0	10505	.2	1614	.0	1156	.0	13275	.1
500- 549	17235	.8	880	.0	1117	.2	0	.0	21708	.4	1093	.0	1418	.0	24220	.2
550- 599	50482	2.2	392	.0	1048	.2	0	.0	66173	1.2	2405	.0	6064	.2	74642	.5
600- 649	91542	4.0	3650	.2	3644	.5	0	.0	114438	2.1	9746	.2	3438	.1	127622	.9
650- 699	177269	7.7	5084	.3	6114	.9	0	.0	206470	3.7	9403	.2	12256	.3	228129	1.5
700- 749	250617	10.9	5724	.3	37052	5.4	269	.0	332090	6.0	14458	.3	23760	.6	370308	2.5
750- 799	346417	15.1	5135	.3	139936	20.4	862	.2	554292	10.0	23422	.4	37234	.9	614949	4.1
800- 849	372182	16.2	6315	.3	222003	32.4	2128	.4	717635	13.0	52603	1.0	72044	1.8	842282	5.6
850- 899	272272	11.9	6511	.3	112157	16.4	1158	.2	499937	9.0	48362	.9	73056	1.8	621356	4.2
900- 949	168956	7.4	6804	.3	43468	6.3	1396	.3	316610	5.7	37031	.7	85381	2.1	439021	2.9
950- 999	76661	3.3	3738	.2	14832	2.2	2812	.5	183680	3.3	38718	.7	96643	2.4	319041	2.1
1000-1049	57216	2.5	6979	.4	13605	2.0	1943	.4	185518	3.4	51398	.9	128025	3.2	364941	2.4
1050-1099	32354	1.4	6710	.3	5334	.8	2815	.5	121300	2.2	60412	1.1	132625	3.3	314337	2.1
1100-1149	26429	1.2	8372	.4	5165	.8	3746	.7	141745	2.6	65086	1.2	163927	4.1	370757	2.5
1150-1199	19181	.8	13445	.7	8939	1.3	8961	1.6	103332	1.9	93065	1.7	210255	5.2	406651	2.7
1200-1249	18343	.8	29601	1.5	5026	.7	19218	3.5	107444	1.9	139799	2.6	282083	7.0	529325	3.5
1250-1299	20261	.9	20035	1.0	7328	1.1	14956	2.7	85828	1.6	128373	2.4	228597	5.7	442796	3.0
1300-1349	30494	1.3	25683	1.3	4875	.7	8865	1.6	115259	2.1	105905	2.0	255374	6.4	476536	3.2
1350-1399	23272	1.0	14282	.7	2972	.4	20579	3.7	87189	1.6	108283	2.0	207969	5.2	403441	2.7
1400-1449	17336	.8	30361	1.5	1735	.3	23321	4.2	101307	1.8	141243	2.6	192403	4.8	434952	2.9
1450-1499	17030	.7	35538	1.8	3340	.5	69078	12.5	96509	1.7	204097	3.8	199797	5.0	500402	3.3
1500-1549	25016	1.1	62055	3.2	3592	.5	111447	20.1	116908	2.1	306352	5.7	209255	5.2	632515	4.2
1550-1599	21750	.9	87930	4.5	1534	.2	78653	14.2	91075	1.6	290661	5.4	177466	4.4	559202	3.7
1600-1649	12048	.5	126055	6.4	2069	.3	39473	7.1	83995	1.5	293356	5.4	165942	4.1	543292	3.6
1650-1699	21183	.9	158952	8.1	2889	.4	23381	4.2	110014	2.0	305542	5.6	153110	3.8	568663	3.8
1700-1749	15175	.7	256615	13.0	1976	.3	26834	4.8	99546	1.8	435641	8.0	180586	4.5	715775	4.8
1750-1799	14548	.6	258474	13.1	3068	.4	15435	2.8	119960	2.2	428801	7.9	143353	3.6	692114	4.6
1800-1849	13896	.6	236194	12.0	7402	1.1	15861	2.9	128116	2.3	417100	7.7	116170	2.9	661387	4.4
1850-1899	11480	.5	136104	6.9	6336	.9	6076	1.1	121317	2.2	265070	4.9	92342	2.3	478729	3.2
1900-1949	8754	.4	104431	5.3	8369	1.2	4862	.9	151872	2.7	233114	4.3	77860	1.9	462845	3.1
1950-1999	6276	.3	56231	2.9	3518	.5	4778	.9	109073	2.0	170044	3.1	65346	1.6	344462	2.3
2000-2049	6378	.3	43159	2.2	3349	.5	3142	.6	67934	1.2	144793	2.7	55626	1.4	268353	1.8
2050-2099	5597	.2	31176	1.6	707	.1	7009	1.3	43818	.8	152438	2.8	45338	1.1	241593	1.6
2100-2149	2916	.1	29729	1.5	0	.0	5816	1.0	27631	.5	138240	2.5	31063	.8	196933	1.3
2150-2199	1935	.1	27435	1.4	188	.0	7368	1.3	16561	.3	121351	2.2	23055	.6	160967	1.1
2200-2249	1992	.1	24131	1.2	0	.0	11618	2.1	17342	.3	105646	1.9	18173	.5	141161	.9
2250-2299	7164	.3	14834	.8	0	.0	6163	1.1	11558	.2	70691	1.3	12177	.3	94426	.6
2300-2349	6916	.3	21719	1.1	0	.0	1035	.2	14027	.3	68709	1.3	13237	.3	95974	.6
2350-2399	3770	.2	25122	1.3	367	.1	2602	.5	8797	.2	74624	1.4	9397	.2	92818	.6
TOTAL	2293308	100.0	1967478	100.0	685054	100.0	554026	100.0	5526606	100.0	5421786	100.0	4010318	100.0	14958701	100.0



TABLE 2.3.5A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
TRANSIT MODES (1990 SURVEY CODES 8,10-16,18)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	0	.0	0	.0	0	.0	0	.0	534	.1	227	.1	0	.0	761	.1
50- 99	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
100- 149	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
150- 199	0	.0	243	.1	0	.0	0	.0	0	.0	243	.1	0	.0	243	.0
200- 249	0	.0	318	.2	0	.0	0	.0	0	.0	318	.1	0	.0	318	.0
250- 299	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	282	.2	282	.0
300- 349	209	.1	0	.0	0	.0	0	.0	209	.0	0	.0	0	.0	209	.0
350- 399	0	.0	574	.3	0	.0	0	.0	0	.0	574	.1	0	.0	574	.1
400- 449	1303	.5	0	.0	0	.0	0	.0	1303	.3	0	.0	0	.0	1303	.1
450- 499	3097	1.3	0	.0	0	.0	0	.0	3311	.7	0	.0	0	.0	3311	.3
500- 549	5399	2.3	0	.0	0	.0	0	.0	5610	1.3	0	.0	135	.1	5745	.5
550- 599	11438	4.8	0	.0	0	.0	0	.0	12185	2.7	0	.0	0	.0	12185	1.2
600- 649	23614	9.9	0	.0	144	.2	0	.0	26540	5.9	0	.0	477	.3	27016	2.6
650- 699	30960	12.9	0	.0	3669	4.0	0	.0	37173	8.3	0	.0	1457	.8	38630	3.7
700- 749	41002	17.1	308	.1	26477	28.6	0	.0	73873	16.5	308	.1	3113	1.7	77293	7.4
750- 799	44329	18.5	452	.2	19336	20.9	0	.0	71097	15.9	884	.2	5472	3.1	77452	7.4
800- 849	26930	11.2	160	.1	22757	24.6	0	.0	56287	12.6	417	.1	6691	3.7	63395	6.1
850- 899	12305	5.1	0	.0	5440	5.9	0	.0	24629	5.5	0	.0	4973	2.8	29602	2.8
900- 949	9975	4.2	0	.0	3602	3.9	0	.0	21945	4.9	751	.2	4903	2.7	27599	2.6
950- 999	3337	1.4	0	.0	1919	2.1	152	.2	8624	1.9	900	.2	4167	2.3	13692	1.3
1000-1049	3388	1.4	0	.0	498	.5	381	.4	13168	2.9	2110	.5	4011	2.2	19289	1.8
1050-1099	1122	.5	0	.0	999	1.1	458	.5	7240	1.6	1793	.4	2995	1.7	12027	1.2
1100-1149	984	.4	807	.4	969	1.0	1615	1.7	8902	2.0	5321	1.3	6678	3.7	20902	2.0
1150-1199	2718	1.1	314	.2	780	.8	1404	1.5	8322	1.9	6869	1.6	7668	4.3	22858	2.2
1200-1249	1678	.7	2248	1.1	456	.5	4690	4.9	9501	2.1	12957	3.1	7027	3.9	29485	2.8
1250-1299	1298	.5	1590	.8	472	.5	1705	1.8	2518	.6	8759	2.1	8651	4.8	19927	1.9
1300-1349	985	.4	1770	.9	708	.8	1770	1.9	7133	1.6	10069	2.4	10923	6.1	28125	2.7
1350-1399	1395	.6	2109	1.0	0	.0	1758	1.8	2734	.6	11583	2.8	8531	4.8	22848	2.2
1400-1449	1509	.6	3656	1.8	433	.5	6716	7.0	6148	1.4	16102	3.8	9695	5.4	31945	3.1
1450-1499	1424	.6	3956	1.9	725	.8	17009	17.8	5022	1.1	28561	6.8	7028	3.9	40611	3.9
1500-1549	2550	1.1	10988	5.3	273	.3	29030	30.4	4235	.9	49165	11.7	8512	4.8	61912	5.9
1550-1599	166	.1	9489	4.6	0	.0	6511	6.8	1197	.3	20126	4.8	9092	5.1	30415	2.9
1600-1649	545	.2	22082	10.6	0	.0	7018	7.4	3318	.7	35712	8.5	8959	5.0	47989	4.6
1650-1699	293	.1	27785	13.4	361	.4	4404	4.6	3086	.7	36019	8.6	8834	4.9	47938	4.6
1700-1749	641	.3	50125	24.1	0	.0	3980	4.2	3309	.7	62230	14.9	10990	6.1	76529	7.3
1750-1799	826	.3	23392	11.3	0	.0	1985	2.1	2620	.6	30132	7.2	7673	4.3	40425	3.9
1800-1849	238	.1	17671	8.5	618	.7	703	.7	2353	.5	23209	5.5	7142	4.0	32703	3.1
1850-1899	426	.2	7352	3.5	1099	1.2	297	.3	5403	1.2	11804	2.8	2873	1.6	20079	1.9
1900-1949	200	.1	6221	3.0	465	.5	135	.1	1138	.3	9275	2.2	2843	1.6	13256	1.3
1950-1999	1020	.4	2072	1.0	0	.0	289	.3	2674	.6	5758	1.4	996	.6	9427	.9
2000-2049	282	.1	1987	1.0	431	.5	273	.3	1398	.3	4666	1.1	1571	.9	7635	.7
2050-2099	560	.2	844	.4	0	.0	0	.0	560	.1	1361	.3	811	.5	2732	.3
2100-2149	0	.0	1750	.8	0	.0	990	1.0	0	.0	5021	1.2	651	.4	5672	.5
2150-2199	215	.1	3099	1.5	0	.0	1288	1.3	673	.2	5166	1.2	0	.0	5839	.6
2200-2249	1364	.6	609	.3	0	.0	859	.9	1364	.3	2836	.7	1427	.8	5626	.5
2250-2299	0	.0	0	.0	0	.0	0	.0	0	.0	2369	.6	377	.2	2746	.3
2300-2349	0	.0	2004	1.0	0	.0	0	.0	0	.0	2671	.6	1039	.6	3710	.4
2350-2399	0	.0	1714	.8	0	.0	0	.0	0	.0	2611	.6	385	.2	2996	.3
TOTAL	239723	100.0	207689	100.0	92631	100.0	95418	100.0	447334	100.0	418877	100.0	179047	100.0	1045258	100.0



TABLE 2.3.6A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
TRANSIT MODES (1990 SURVEY CODES 8,10-16,18)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	NUMBER	PCT	NUMBER	PCT
0- 49	0	.0	253	.1	0	.0	0	.0	0	.0	253	.1	0	.0	253	.0
50- 99	0	.0	718	.3	0	.0	0	.0	534	.1	718	.2	0	.0	1252	.1
100- 149	0	.0	0	.0	0	.0	0	.0	329	.1	227	.1	0	.0	556	.1
150- 199	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
200- 249	0	.0	243	.1	0	.0	0	.0	0	.0	243	.1	0	.0	243	.0
250- 299	0	.0	318	.2	0	.0	0	.0	0	.0	318	.1	282	.2	599	.1
300- 349	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
350- 399	209	.1	574	.3	0	.0	0	.0	209	.0	574	.1	0	.0	783	.1
400- 449	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
450- 499	1012	.4	0	.0	0	.0	0	.0	1012	.2	0	.0	0	.0	1012	.1
500- 549	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	195	.1	195	.0
550- 599	3095	1.3	0	.0	0	.0	0	.0	3306	.7	0	.0	135	.1	3441	.3
600- 649	7222	3.0	0	.0	0	.0	0	.0	8310	1.9	0	.0	0	.0	8310	.8
650- 699	11583	4.8	0	.0	837	.9	0	.0	12878	2.9	0	.0	659	.4	13538	1.3
700- 749	30320	12.6	307	.1	2107	2.3	0	.0	34990	7.8	307	.1	746	.4	36043	3.4
750- 799	36669	15.3	0	.0	20563	22.2	0	.0	62964	14.1	0	.0	3448	1.9	66413	6.4
800- 849	52076	21.7	189	.1	29125	31.4	0	.0	85799	19.2	878	.2	7447	4.2	94124	9.0
850- 899	34530	14.4	308	.1	17541	18.9	0	.0	60544	13.5	308	.1	5949	3.3	66801	6.4
900- 949	19592	8.2	637	.3	6235	6.7	0	.0	31386	7.0	637	.2	3794	2.1	35818	3.4
950- 999	10502	4.4	0	.0	2458	2.7	0	.0	20390	4.6	751	.2	4186	2.3	25328	2.4
1000-1049	5594	2.3	0	.0	3501	3.8	0	.0	16014	3.6	1339	.3	5091	2.8	22444	2.1
1050-1099	3072	1.3	0	.0	697	.8	992	1.0	12302	2.8	1695	.4	3256	1.8	17252	1.7
1100-1149	3000	1.3	0	.0	1018	1.1	781	.8	10645	2.4	2404	.6	4418	2.5	17467	1.7
1150-1199	1590	.7	757	.4	1469	1.6	781	.8	9909	2.2	3315	.8	8873	5.0	22097	2.1
1200-1249	1709	.7	1044	.5	780	.8	1746	1.8	9907	2.2	7743	1.8	5083	2.8	22733	2.2
1250-1299	889	.4	564	.3	714	.8	3168	3.3	4659	1.0	9565	2.3	7126	4.0	21350	2.0
1300-1349	970	.4	2210	1.1	164	.2	1665	1.7	3179	.7	7912	1.9	9023	5.0	20114	1.9
1350-1399	2164	.9	974	.5	767	.8	2053	2.2	8482	1.9	9158	2.2	8673	4.8	26314	2.5
1400-1449	1252	.5	2909	1.4	0	.0	2248	2.4	5050	1.1	12635	3.0	8811	4.9	26496	2.5
1450-1499	943	.4	2392	1.2	476	.5	4390	4.6	3596	.8	13468	3.2	7734	4.3	24798	2.4
1500-1549	1624	.7	3815	1.8	932	1.0	19784	20.7	6324	1.4	32001	7.6	8611	4.8	46936	4.5
1550-1599	2622	1.1	6352	3.1	0	.0	20814	21.8	4537	1.0	31291	7.5	7024	3.9	42852	4.1
1600-1649	388	.2	5979	2.9	0	.0	11900	12.5	1466	.3	26116	6.2	8937	5.0	36520	3.5
1650-1699	487	.2	15289	7.4	273	.3	5242	5.5	3314	.7	26070	6.2	7649	4.3	37033	3.5
1700-1749	840	.4	25869	12.5	361	.4	8559	9.0	2776	.6	39791	9.5	12133	6.8	54699	5.2
1750-1799	1467	.6	35217	17.0	0	.0	3829	4.0	2317	.5	46047	11.0	7298	4.1	55662	5.3
1800-1849	0	.0	38762	18.7	618	.7	1645	1.7	4494	1.0	46826	11.2	9354	5.2	60674	5.8
1850-1899	238	.1	23944	11.5	358	.4	720	.8	2618	.6	29359	7.0	8163	4.6	40141	3.8
1900-1949	426	.2	13985	6.7	741	.8	210	.2	4252	1.0	18012	4.3	4014	2.2	26277	2.5
1950-1999	793	.3	6974	3.4	465	.5	1191	1.2	2330	.5	14513	3.5	3313	1.9	20156	1.9
2000-2049	0	.0	4258	2.1	0	.0	0	.0	1873	.4	5556	1.3	1612	.9	9042	.9
2050-2099	709	.3	3156	1.5	431	.5	289	.3	1813	.4	5689	1.4	1890	1.1	9392	.9
2100-2149	0	.0	1559	.8	0	.0	223	.2	227	.1	3087	.7	866	.5	4180	.4
2150-2199	0	.0	1778	.9	0	.0	767	.8	0	.0	3834	.9	651	.4	4485	.4
2200-2249	252	.1	1951	.9	0	.0	481	.5	711	.2	3570	.9	1427	.8	5707	.5
2250-2299	522	.2	838	.4	0	.0	1481	1.6	522	.1	4186	1.0	0	.0	4708	.5
2300-2349	1364	.6	306	.1	0	.0	0	.0	1364	.3	1003	.2	377	.2	2743	.3
2350-2399	0	.0	3259	1.6	0	.0	458	.5	0	.0	7480	1.8	801	.4	8281	.8
TOTAL	239723	100.0	207689	100.0	92631	100.0	95418	100.0	447334	100.0	418877	100.0	179047	100.0	1045258	100.0

TABLE 2.3.7A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
VEHICLE DRIVER MODES (1990 SURVEY CODES 1,3,5,19)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	2749	.2	0	.0	0	.0	1054	.0	7342	.2	1274	.0	9670	.1
50- 99	453	.0	4058	.3	0	.0	0	.0	1864	.0	9312	.2	0	.0	11176	.1
100- 149	160	.0	6654	.4	0	.0	0	.0	1300	.0	9984	.3	597	.0	11881	.1
150- 199	0	.0	1833	.1	0	.0	0	.0	166	.0	3556	.1	991	.0	4713	.0
200- 249	722	.0	3169	.2	0	.0	0	.0	888	.0	5886	.2	760	.0	7533	.1
250- 299	1508	.1	1530	.1	0	.0	0	.0	1508	.0	4992	.1	0	.0	6499	.1
300- 349	3486	.2	2304	.1	0	.0	0	.0	4288	.1	2837	.1	495	.0	7619	.1
350- 399	3225	.2	306	.0	0	.0	0	.0	3610	.1	306	.0	385	.0	4301	.0
400- 449	5513	.3	2002	.1	0	.0	0	.0	6284	.2	2210	.1	882	.0	9376	.1
450- 499	14770	.8	908	.1	0	.0	238	.1	16558	.4	1360	.0	2959	.1	20877	.2
500- 549	34472	1.8	1167	.1	0	.0	0	.0	40529	1.0	1533	.0	2273	.1	44335	.4
550- 599	75187	4.0	1312	.1	0	.0	0	.0	89685	2.3	5758	.1	4124	.1	99567	.9
600- 649	127809	6.8	4049	.3	3392	1.8	0	.0	149107	3.8	8359	.2	7433	.2	164899	1.5
650- 699	195844	10.5	2577	.2	4896	2.6	0	.0	222365	5.7	9170	.2	12502	.4	244036	2.2
700- 749	255284	13.6	6599	.4	18244	9.6	807	.5	308465	7.9	17531	.5	27475	.9	353470	3.2
750- 799	290360	15.5	5853	.4	43427	22.8	593	.4	403303	10.3	28067	.7	38780	1.2	470150	4.3
800- 849	245084	13.1	5576	.3	24253	12.8	1458	.9	361301	9.2	50104	1.3	48483	1.6	459888	4.2
850- 899	144932	7.7	4890	.3	13507	7.1	1136	.7	225752	5.8	38845	1.0	62441	2.0	327038	3.0
900- 949	79719	4.3	4815	.3	12108	6.4	1957	1.2	175173	4.5	35306	.9	75980	2.4	286459	2.6
950- 999	44290	2.4	5201	.3	6984	3.7	1859	1.2	121477	3.1	39325	1.0	88017	2.8	248819	2.3
1000-1049	34895	1.9	5580	.3	6460	3.4	1690	1.1	127997	3.3	48038	1.2	109992	3.5	286027	2.6
1050-1099	23356	1.2	5701	.4	2954	1.6	980	.6	82177	2.1	48935	1.3	127526	4.1	258637	2.4
1100-1149	19911	1.1	8934	.6	2609	1.4	5417	3.4	100405	2.6	63981	1.7	147171	4.7	311557	2.9
1150-1199	13887	.7	16622	1.0	3420	1.8	3659	2.3	72334	1.8	85619	2.2	188782	6.1	346734	3.2
1200-1249	15980	.9	32069	2.0	2495	1.3	10373	6.5	74692	1.9	117649	3.0	233501	7.5	425842	3.9
1250-1299	22118	1.2	14545	.9	5513	2.9	5226	3.3	73360	1.9	78758	2.0	201538	6.5	353655	3.2
1300-1349	24760	1.3	19751	1.2	2771	1.5	7196	4.5	87229	2.2	78609	2.0	196626	6.3	362463	3.3
1350-1399	15661	.8	17706	1.1	1976	1.0	4559	2.9	67371	1.7	83204	2.2	157149	5.0	307722	2.8
1400-1449	17929	1.0	31337	2.0	1400	.7	11373	7.1	85195	2.2	104371	2.7	162624	5.2	352190	3.2
1450-1499	18279	1.0	39292	2.5	2790	1.5	17402	10.9	80785	2.1	149720	3.9	142381	4.6	372886	3.4
1500-1549	19075	1.0	75288	4.7	1481	.8	13521	8.5	81906	2.1	186434	4.8	140021	4.5	408359	3.7
1550-1599	12158	.6	105473	6.6	1609	.8	5638	3.5	58635	1.5	189986	4.9	132739	4.3	381359	3.5
1600-1649	13862	.7	131290	8.2	1746	.9	6587	4.1	74983	1.9	233583	6.0	125150	4.0	433714	4.0
1650-1699	15823	.8	164846	10.3	1502	.8	4199	2.6	73144	1.9	264543	6.8	114945	3.7	452631	4.2
1700-1749	11518	.6	269886	16.9	1311	.7	5481	3.4	73498	1.9	387740	10.0	141094	4.5	602333	5.5
1750-1799	13737	.7	155216	9.7	4837	2.5	3772	2.4	89313	2.3	264301	6.8	83667	2.7	437279	4.0
1800-1849	9104	.5	126229	7.9	6661	3.5	4153	2.6	95179	2.4	235782	6.1	77498	2.5	408459	3.7
1850-1899	9541	.5	66874	4.2	6212	3.3	2656	1.7	86507	2.2	153148	4.0	52146	1.7	291801	2.7
1900-1949	6521	.3	57844	3.6	3207	1.7	3380	2.1	100816	2.6	138168	3.6	45706	1.5	284690	2.6
1950-1999	4446	.2	29339	1.8	1560	.8	1208	.8	55372	1.4	101837	2.6	35888	1.2	193097	1.8
2000-2049	5842	.3	26303	1.6	827	.4	4316	2.7	40747	1.0	100693	2.6	37364	1.2	178804	1.6
2050-2099	2315	.1	22157	1.4	0	.0	4016	2.5	23354	.6	90256	2.3	23143	.7	136754	1.3
2100-2149	2028	.1	26483	1.7	0	.0	6122	3.8	19623	.5	104111	2.7	22221	.7	145955	1.3
2150-2199	2447	.1	19748	1.2	0	.0	7794	4.9	16019	.4	84625	2.2	15007	.5	115651	1.1
2200-2249	3690	.2	17279	1.1	0	.0	7270	4.5	11600	.3	72349	1.9	11323	.4	95272	.9
2250-2299	4747	.3	10983	.7	0	.0	1679	1.0	8776	.2	42035	1.1	8288	.3	59099	.5
2300-2349	4167	.2	18046	1.1	0	.0	1482	.9	8916	.2	47221	1.2	5613	.2	61750	.6
2350-2399	3010	.2	12484	.8	0	.0	738	.5	5737	.1	29608	.8	4758	.2	40103	.4
TOTAL	1873946	100.0	1594858	100.0	190153	100.0	159934	100.0	3910343	100.0	3867085	100.0	3119711	100.0	10897133	100.0



TABLE 2.3.8A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
VEHICLE DRIVER MODES (1990 SURVEY CODES 1,3,5,19)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	814	.1	0	.0	0	.0	1141	.0	3936	.1	1207	.0	6283	.1
50- 99	198	.0	5094	.3	0	.0	0	.0	1730	.0	9773	.3	373	.0	11875	.1
100- 149	415	.0	6051	.4	0	.0	0	.0	415	.0	12012	.3	150	.0	12577	.1
150- 199	0	.0	2140	.1	0	.0	0	.0	166	.0	4911	.1	1044	.0	6120	.1
200- 249	471	.0	3143	.2	0	.0	0	.0	637	.0	6310	.2	760	.0	7707	.1
250- 299	926	.0	1998	.1	0	.0	0	.0	926	.0	3656	.1	0	.0	4582	.0
300- 349	2064	.1	2629	.2	0	.0	0	.0	2866	.1	4902	.1	889	.0	8658	.1
350- 399	2709	.1	583	.0	0	.0	0	.0	3094	.1	1115	.0	385	.0	4594	.0
400- 449	3833	.2	2236	.1	0	.0	0	.0	4604	.1	2236	.1	420	.0	7261	.1
450- 499	8637	.5	1168	.1	0	.0	238	.1	9329	.2	1614	.0	1156	.0	12099	.1
500- 549	15348	.8	713	.0	0	.0	0	.0	18132	.5	927	.0	1223	.0	20283	.2
550- 599	43213	2.3	392	.0	0	.0	0	.0	55916	1.4	2405	.1	5285	.2	63607	.6
600- 649	74786	4.0	2692	.2	1969	1.0	0	.0	91456	2.3	8129	.2	2919	.1	102504	.9
650- 699	148860	7.9	4637	.3	2138	1.1	0	.0	168849	4.3	8956	.2	10337	.3	188143	1.7
700- 749	199384	10.6	5146	.3	11777	6.2	269	.2	241055	6.2	13642	.4	18778	.6	273475	2.5
750- 799	279509	14.9	4707	.3	32039	16.8	698	.4	356407	9.1	22073	.6	27389	.9	405868	3.7
800- 849	293399	15.7	5914	.4	35376	18.6	1405	.9	419947	10.7	47179	1.2	47140	1.5	514266	4.7
850- 899	219252	11.7	5514	.3	16818	8.8	1158	.7	314818	8.1	45275	1.2	53101	1.7	413194	3.8
900- 949	140412	7.5	5471	.3	14867	7.8	1146	.7	237597	6.1	32765	.8	70980	2.3	341341	3.1
950- 999	61236	3.3	3551	.2	6244	3.3	2518	1.6	136729	3.5	34865	.9	81704	2.6	253297	2.3
1000-1049	44668	2.4	6722	.4	8080	4.2	1674	1.0	143286	3.7	43905	1.1	107324	3.4	294515	2.7
1050-1099	27417	1.5	6043	.4	4637	2.4	1611	1.0	91248	2.3	51571	1.3	113646	3.6	256465	2.4
1100-1149	21600	1.2	7114	.4	3489	1.8	2389	1.5	105538	2.7	52908	1.4	138191	4.4	296638	2.7
1150-1199	17069	.9	12203	.8	3329	1.8	4556	2.8	71658	1.8	75771	2.0	173597	5.6	321026	2.9
1200-1249	16303	.9	27593	1.7	2184	1.1	8597	5.4	80535	2.1	105036	2.7	234039	7.5	419610	3.9
1250-1299	18344	1.0	18909	1.2	4504	2.4	6455	4.0	68676	1.8	94459	2.4	188845	6.1	351980	3.2
1300-1349	27234	1.5	21808	1.4	4711	2.5	4930	3.1	93782	2.4	82476	2.1	209600	6.7	385857	3.5
1350-1399	19807	1.1	12286	.8	1365	.7	7347	4.6	67732	1.7	71985	1.9	164590	5.3	304307	2.8
1400-1449	14584	.8	25692	1.6	1735	.9	5863	3.7	78639	2.0	92640	2.4	153391	4.9	324669	3.0
1450-1499	14333	.8	27954	1.8	2788	1.5	14695	9.2	77266	2.0	118055	3.1	148419	4.8	343740	3.2
1500-1549	21483	1.1	52200	3.3	2524	1.3	18651	11.7	89285	2.3	162881	4.2	145902	4.7	398068	3.7
1550-1599	17884	1.0	74406	4.7	859	.5	7700	4.8	63222	1.7	167916	4.3	136262	4.4	372399	3.4
1600-1649	11358	.6	107475	5.7	1634	.9	6257	3.9	65525	1.7	203398	5.3	130646	4.2	399569	3.7
1650-1699	16609	.9	129747	8.1	1994	1.0	3719	2.3	79111	2.0	222764	5.8	118285	3.8	420159	3.9
1700-1749	13207	.7	211325	13.3	1223	.6	6193	3.9	73074	1.9	327707	8.5	130802	4.2	531582	4.9
1750-1799	12068	.6	204318	12.8	2327	1.2	4128	2.6	83246	2.1	319006	8.2	112760	3.6	515011	4.7
1800-1849	11774	.6	176134	11.0	6406	3.4	5447	3.4	90226	2.3	298008	7.7	85280	2.7	473514	4.3
1850-1899	9990	.5	104185	6.5	5350	2.8	2398	1.5	84598	2.2	192777	5.0	63650	2.0	341025	3.1
1900-1949	7766	.4	80919	5.1	6394	3.4	3788	2.4	104668	2.7	169393	4.4	54015	1.7	328076	3.0
1950-1999	4745	.3	45146	2.8	1665	.9	1774	1.1	72142	1.8	121354	3.1	40049	1.3	233545	2.1
2000-2049	5570	.3	35715	2.2	1539	.8	2559	1.6	48493	1.2	105273	2.7	38902	1.2	192668	1.8
2050-2099	4439	.2	25991	1.6	0	.0	5131	3.2	30372	.8	101709	2.6	28685	.9	161266	1.5
2100-2149	2916	.2	25271	1.6	0	.0	4413	2.8	21884	.6	101075	2.6	24037	.8	146996	1.3
2150-2199	1287	.1	21536	1.4	188	.1	5897	3.7	12783	.3	87359	2.3	16186	.5	116329	1.1
2200-2249	1310	.1	13238	1.1	0	.0	3330	5.8	13229	.3	75567	2.0	12623	.4	101419	.9
2250-2299	6150	.3	12015	.8	0	.0	4257	2.7	10545	.3	50191	1.3	9257	.3	69992	.6
2300-2349	5552	.3	18455	1.2	0	.0	1035	.6	10973	.3	52496	1.4	8484	.3	71953	.7
2350-2399	3501	.2	20764	1.3	0	.0	1714	1.1	7296	.2	52719	1.4	7004	.2	67019	.6

TOTAL 1873946 100.0 1594858 100.0 190153 100.0 159934 100.0 3910343 100.0 3867085 100.0 3119711 100.0 10897133 100.0  
Stop - Program terminated.



TABLE 2.3. 9A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
 DRIVE ALONE (1990 SURVEY CODES 1,3,5,19 WITH OCC=1)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	FROM HOME NUMBER	TO HOME PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	2363	.2	0	.0	0	.0	1093	.0	9924	.2	1067	.0	6709	.1
50- 99	453	.0	3259	.2	0	.0	0	.0	1666	.0	12609	.2	0	.0	6850	.1
00- 149	160	.0	5616	.4	0	.0	0	.0	481	.0	18657	.3	150	.0	7736	.1
50- 199	0	.0	1650	.1	0	.0	0	.0	0	.0	5611	.1	473	.0	2784	.0
200- 249	722	.0	3169	.2	0	.0	0	.0	2331	.0	10924	.2	121	.0	5594	.1
250- 299	1508	.1	1530	.1	0	.0	0	.0	4523	.1	5570	.1	0	.0	4018	.1
300- 349	3486	.2	1088	.1	0	.0	0	.0	10989	.2	3263	.1	175	.0	5281	.1
350- 399	3225	.2	306	.0	0	.0	0	.0	10059	.2	919	.0	385	.0	4301	.1
400- 449	5356	.3	1826	.1	0	.0	0	.0	16631	.3	5685	.1	563	.0	8515	.1
450- 499	13853	.9	908	.1	0	.0	238	.2	43053	.7	3652	.1	526	.0	17233	.2
500- 549	29376	1.8	861	.1	0	.0	0	.0	91109	1.5	2949	.0	1795	.1	35379	.4
550- 599	66638	4.1	1117	.1	0	.0	0	.0	209361	3.4	7412	.1	3435	.2	84698	1.1
600- 649	113838	7.1	4049	.3	1992	1.5	0	.0	360566	5.8	16188	.3	5297	.2	142294	1.8
650- 699	169722	10.6	2130	.2	4150	3.2	0	.0	534883	8.6	12629	.2	9904	.4	205412	2.6
700- 749	209981	13.1	6002	.4	11094	8.6	337	.3	680486	10.9	27933	.5	20722	.9	274310	3.5
750- 799	240239	15.0	5552	.4	25606	19.9	593	.5	823515	13.2	38651	.7	29868	1.3	348051	4.4
800- 849	195168	12.1	5066	.4	14775	11.5	973	.8	663507	10.6	52558	.9	36335	1.6	320437	4.1
850- 899	125608	7.8	4728	.3	8216	6.4	1136	.9	438116	7.0	45600	.8	50066	2.2	254408	3.2
900- 949	70400	4.4	4499	.3	8471	6.6	1450	1.2	287946	4.6	39364	.7	63376	2.8	221048	2.8
950- 999	40090	2.5	5201	.4	6152	4.8	1484	1.2	184796	3.0	43295	.7	72851	3.2	195088	2.5
1000-1049	29817	1.9	5131	.4	4880	3.8	1548	1.3	159614	2.6	51802	.9	87216	3.8	215880	2.7
1050-1099	21278	1.3	5392	.4	2301	1.8	523	.4	106026	1.7	48244	.8	99709	4.4	194991	2.5
1100-1149	18387	1.1	8395	.6	1811	1.4	3967	3.2	107410	1.7	69758	1.2	111296	4.9	223344	2.8
1150-1199	13355	.8	14281	1.0	2838	2.2	3221	2.6	82603	1.3	94280	1.6	137927	6.0	247421	3.1
1200-1249	14696	.9	28619	2.0	1612	1.3	8960	7.3	85953	1.4	160438	2.7	172422	7.5	311039	3.9
1250-1299	21419	1.3	13415	.9	4770	3.7	4332	3.5	108215	1.7	91148	1.5	149646	6.5	261137	3.3
1300-1349	22512	1.4	18493	1.3	1731	1.3	5468	4.5	110311	1.8	103515	1.8	144725	6.3	262141	3.3
1350-1399	13952	.9	15644	1.1	1410	1.1	3661	3.0	77693	1.2	94810	1.6	116989	5.1	220159	2.8
1400-1449	16326	1.0	25900	1.8	1211	.9	8722	7.1	94026	1.5	140487	2.4	122239	5.3	252433	3.2
1450-1499	16452	1.0	33244	2.4	2089	1.6	10496	8.6	90260	1.4	176068	3.0	101116	4.4	242881	3.1
1500-1549	17240	1.1	64282	4.5	622	.5	8659	7.1	88670	1.4	266420	4.5	106750	4.7	280235	3.5
1550-1599	11639	.7	89932	6.4	844	.7	4722	3.9	64377	1.0	333846	5.7	97466	4.3	281415	3.6
1600-1649	12000	.7	109620	7.8	965	.8	5503	4.5	69384	1.1	406196	6.9	95155	4.2	314559	4.0
1650-1699	14849	.9	144441	10.2	713	.6	2413	2.0	77413	1.2	499326	8.5	83672	3.7	335579	4.3
1700-1749	10416	.6	236429	16.7	997	.8	3627	3.0	65737	1.1	786729	13.3	108729	4.8	458255	5.8
1750-1799	12398	.8	139346	9.9	4579	3.6	2204	1.8	88443	1.4	492808	8.4	61381	2.7	325576	4.1
1800-1849	7694	.5	118722	8.4	5431	4.2	3388	2.8	78479	1.3	431670	7.3	52548	2.3	292227	3.7
1850-1899	7501	.5	58787	4.2	4798	3.7	1211	1.0	72887	1.2	229413	3.9	32576	1.4	190280	2.4
1900-1949	5520	.3	54616	3.9	2471	1.9	3380	2.8	71881	1.2	219829	3.7	27011	1.2	186748	2.4
1950-1999	4446	.3	26771	1.9	1188	.9	811	.7	42113	.7	123483	2.1	17281	.8	116444	1.5
2000-2049	4912	.3	23557	1.7	827	.6	3335	2.7	37940	.6	119294	2.0	18327	.8	110297	1.4
2050-2099	1322	.1	19966	1.4	0	.0	3406	2.8	16543	.3	103226	1.7	11387	.5	81769	1.0
2100-2149	1676	.1	23644	1.7	0	.0	5512	4.5	17075	.3	123962	2.1	12014	.5	91386	1.2
2150-2199	1966	.1	18860	1.3	0	.0	6557	5.4	14493	.2	107422	1.8	8015	.4	75165	1.0
2200-2249	3466	.2	15477	1.1	0	.0	7270	5.9	15474	.2	91111	1.5	5424	.2	59581	.8
2250-2299	4477	.3	9794	.7	0	.0	1420	1.2	16039	.3	49670	.8	5336	.2	39662	.5
2300-2349	3910	.2	17807	1.3	0	.0	1174	1.0	14237	.2	72565	1.2	1934	.1	42956	.5
2350-2399	3010	.2	11697	.8	0	.0	738	.6	11048	.2	48397	.8	3087	.1	31643	.4
TOTAL	1606782	100.0	1413182	100.0	128545	100.0	122441	100.0	6249455	100.0	5899313	100.0	2288486	100.0	7895350	100.0

TABLE 2.3.10A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
 DRIVE ALONE (1990 SURVEY CODES 1,3,5,19 WITH OCC=1)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED				TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	324	.0	477	.0	0	.0	0	.0	1180	.0	3157	.1	999	.0	3734	.0		
50- 99	198	.0	4475	.3	0	.0	0	.0	1021	.0	16154	.3	373	.0	8201	.1		
100- 149	415	.0	5191	.4	0	.0	0	.0	1246	.0	18226	.3	150	.0	8408	.1		
150- 199	0	.0	918	.1	0	.0	0	.0	0	.0	3784	.1	78	.0	2025	.0		
200- 249	471	.0	3143	.2	0	.0	0	.0	1580	.0	11127	.2	121	.0	5598	.1		
250- 299	926	.1	1998	.1	0	.0	0	.0	2779	.0	6497	.1	0	.0	3428	.0		
300- 349	2064	.1	1826	.1	0	.0	0	.0	6725	.1	6292	.1	570	.0	5807	.1		
350- 399	2709	.2	583	.0	0	.0	0	.0	8512	.1	1748	.0	385	.0	4061	.1		
400- 449	3833	.2	1824	.1	0	.0	0	.0	12063	.2	5471	.1	0	.0	6220	.1		
450- 499	8480	.5	992	.1	0	.0	238	.2	25838	.4	3897	.1	563	.0	10879	.1		
500- 549	14547	.9	408	.0	0	.0	0	.0	45652	.7	1436	.0	1143	.0	18323	.2		
550- 599	39828	2.5	392	.0	0	.0	0	.0	126642	2.0	3189	.1	2727	.1	52118	.7		
600- 649	67737	4.2	2497	.2	1690	1.3	0	.0	218761	3.5	12274	.2	2695	.1	89882	1.1		
650- 699	132351	8.2	4190	.3	1364	1.1	0	.0	412959	6.6	16757	.3	8310	.4	162216	2.1		
700- 749	174540	10.9	5146	.4	7015	5.5	269	.2	561422	9.0	24015	.4	15574	.7	227069	2.9		
750- 799	236141	14.7	4477	.3	19764	15.4	228	.2	788622	12.6	29735	.5	19431	.8	316567	4.0		
800- 849	240971	15.0	5389	.4	20374	15.8	919	.8	818637	13.1	51535	.9	35384	1.5	370245	4.7		
850- 899	168748	10.5	5129	.4	10749	8.4	1158	.9	573507	9.2	50832	.9	41636	1.8	294407	3.7		
900- 949	118159	7.4	4929	.3	10018	7.8	948	.8	432167	6.9	39970	.7	58877	2.6	262909	3.3		
950- 999	54991	3.4	3551	.3	4420	3.4	1835	1.5	221331	3.5	38171	.6	68445	3.0	198355	2.5		
1000-1049	38591	2.4	6292	.4	7244	5.6	1532	1.3	195862	3.1	48806	.8	86240	3.8	235588	2.8		
1050-1099	22365	1.4	5509	.4	3641	2.8	1154	.9	116091	1.9	51513	.9	92387	4.0	194653	2.5		
1100-1149	19355	1.2	6880	.5	2469	1.9	2146	1.8	115332	1.8	59854	1.0	104773	4.6	218261	2.8		
1150-1199	16576	1.0	11123	.8	2568	2.0	3052	2.5	88353	1.4	81148	1.4	128097	5.6	230957	2.9		
1200-1249	15507	1.0	25491	1.8	1971	1.5	7538	6.2	90881	1.5	139543	2.4	171030	7.5	300440	3.8		
1250-1299	17138	1.1	16197	1.1	3506	2.7	5456	4.5	92801	1.5	108951	1.8	140211	6.1	257369	3.3		
1300-1349	25513	1.6	20473	1.4	3017	2.3	4367	3.6	123160	2.0	110435	1.9	153973	6.7	280828	3.6		
1350-1399	17795	1.1	10982	.8	1086	.8	5862	4.8	91482	1.5	81923	1.4	123444	5.4	225400	2.9		
1400-1449	13165	.8	23037	1.6	1488	1.2	4669	3.8	81615	1.3	122119	2.1	116639	5.1	235654	3.0		
1450-1499	13750	.9	24199	1.7	1897	1.5	9304	7.6	83102	1.3	137085	2.3	111619	4.9	233506	3.0		
1500-1549	19123	1.2	42073	3.0	1345	1.0	11174	9.1	97098	1.6	207484	3.5	103708	4.5	260860	3.3		
1550-1599	16243	1.0	66155	4.7	362	.3	5692	4.6	79310	1.3	261982	4.4	104166	4.6	268555	3.4		
1600-1649	10611	.7	94659	6.7	841	.7	5171	4.2	62432	1.0	357171	6.1	94617	4.1	291655	3.7		
1650-1699	14502	.9	111189	7.9	1424	1.1	3475	2.8	82170	1.3	399169	6.8	86547	3.8	306705	3.9		
1700-1749	12440	.8	187349	13.3	748	.6	3419	2.8	68077	1.1	640429	10.9	98787	4.3	399379	5.1		
1750-1799	10295	.6	179595	12.7	1892	1.5	2189	1.8	72466	1.2	612118	10.4	85947	3.8	382587	4.8		
1800-1849	10069	.6	152718	10.8	5904	4.6	4348	3.6	83877	1.3	541755	9.2	58940	2.6	338496	4.3		
1850-1899	9186	.6	94149	6.7	3925	3.1	1482	1.2	77175	1.2	338158	5.7	40721	1.8	238570	3.0		
1900-1949	6270	.4	72048	5.1	5335	4.2	3109	2.5	80197	1.3	276807	4.7	35641	1.6	219122	2.8		
1950-1999	3897	.2	42426	3.0	1440	1.1	1555	1.3	48776	.8	177119	3.0	18303	.8	145562	1.8		
2000-2049	4956	.3	32106	2.3	859	.7	2000	1.6	42093	.7	138528	2.3	22032	1.0	122810	1.6		
2050-2099	2866	.2	23916	1.7	0	.0	4251	3.5	22493	.4	119905	2.0	13442	.6	93774	1.2		
2100-2149	2708	.2	22204	1.6	0	.0	3895	3.2	21577	.3	117754	2.0	12995	.6	94712	1.2		
2150-2199	1086	.1	20042	1.4	188	.1	5272	4.3	10231	.2	107601	1.8	7345	.3	72000	.9		
2200-2249	1030	.1	16718	1.2	0	.0	8297	6.8	10605	.2	102152	1.7	6698	.3	67363	.9		
2250-2299	5513	.3	10478	.7	0	.0	3998	3.3	19842	.3	59008	1.0	5512	.2	44384	.6		
2300-2349	5552	.3	17177	1.2	0	.0	1035	.8	19468	.3	72534	1.2	3371	.1	47844	.6		
2350-2399	3244	.2	20462	1.4	0	.0	1405	1.1	12242	.2	83998	1.4	3841	.2	49860	.6		
TOTAL	1606782	100.0	1413182	100.0	128545	100.0	122441	100.0	6249455	100.0	5899313	100.0	2288486	100.0	7895350	100.0		



TABLE 2.3.11A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
 SHARED RIDE (1990 SURVEY CODES 1-6,19,20 WITH OCC>1)

TIME AT TRIP ORGN	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	0	.0	1389	.4	0	.0	0	.0	935	.0	7054	.2	400	.0	5610	.1
50- 99	0	.0	1204	.3	0	.0	124	.0	1300	.0	8158	.2	641	.0	7443	.1
100- 149	0	.0	1202	.3	0	.0	0	.0	1369	.0	7047	.2	606	.0	6618	.1
150- 199	0	.0	184	.1	0	.0	0	.0	331	.0	2815	.1	1089	.1	3867	.1
200- 249	0	.0	0	.0	0	.0	0	.0	321	.0	1702	.1	639	.0	2662	.0
250- 299	0	.0	825	.2	0	.0	0	.0	0	.0	5770	.2	0	.0	4120	.1
300- 349	0	.0	2750	.8	0	.0	0	.0	269	.0	8784	.3	320	.0	3872	.1
350- 399	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
400- 449	544	.1	176	.1	0	.0	0	.0	2047	.1	529	.0	320	.0	1456	.0
450- 499	3437	.8	0	.0	0	.0	0	.0	10789	.3	0	.0	2434	.2	6348	.1
500- 549	9355	2.1	472	.1	1117	.3	0	.0	36335	.9	1417	.0	785	.1	16647	.3
550- 599	18263	4.1	663	.2	1486	.4	0	.0	66471	1.7	3034	.1	1295	.1	29975	.5
600- 649	30474	6.8	489	.1	3898	1.0	0	.0	110449	2.9	1737	.1	3396	.2	45859	.8
650- 699	45634	10.2	894	.3	6994	1.8	0	.0	174612	4.5	3035	.1	3615	.2	74218	1.3
700- 749	69734	15.6	1516	.4	38978	10.3	470	.2	355307	9.2	8064	.2	11912	.8	153887	2.6
750- 799	79518	17.8	302	.1	106661	28.2	724	.3	630949	16.3	4853	.1	20767	1.4	282160	4.8
800- 849	67120	15.0	948	.3	125406	33.1	485	.2	667651	17.3	16424	.5	27802	1.8	323961	5.6
850- 899	30852	6.9	566	.2	39587	10.5	0	.0	257586	6.7	10129	.3	25064	1.7	150770	2.6
900- 949	15958	3.6	850	.2	16543	4.4	507	.2	148848	3.9	12913	.4	20414	1.3	114458	2.0
950- 999	8406	1.9	187	.1	3818	1.0	669	.3	74206	1.9	17365	.5	26347	1.7	91758	1.6
1000-1049	8942	2.0	1159	.3	2412	.6	411	.2	84682	2.2	17260	.5	38406	2.5	114498	2.0
1050-1099	3961	.9	1060	.3	710	.2	669	.3	50175	1.3	24617	.7	46584	3.1	108576	1.9
1100-1149	2356	.5	1745	.5	1530	.4	3832	1.5	61765	1.6	44534	1.4	57874	3.8	145247	2.5
1150-1199	888	.2	2447	.7	6112	1.6	3367	1.3	56424	1.5	54695	1.7	83334	5.5	168826	2.9
1200-1249	2166	.5	4805	1.4	1936	.5	9900	3.9	46877	1.2	88387	2.7	99355	6.5	197005	3.4
1250-1299	2132	.5	1864	.5	1255	.3	3718	1.5	34722	.9	51046	1.6	86527	5.7	154359	2.7
1300-1349	4272	1.0	2490	.7	1040	.3	3595	1.4	54264	1.4	48869	1.5	89148	5.9	169486	2.9
1350-1399	3580	.8	3330	1.0	1406	.4	11867	4.7	46985	1.2	86976	2.6	73210	4.8	166806	2.9
1400-1449	2730	.6	10313	3.0	189	.1	18325	7.2	47014	1.2	130689	4.0	74826	4.9	189413	3.3
1450-1499	3952	.9	11314	3.3	777	.2	54322	21.5	53963	1.4	274839	8.4	81088	5.3	269159	4.6
500-1549	3731	.8	20665	6.0	1215	.3	59940	23.7	61203	1.6	326332	9.9	79707	5.3	296140	5.1
550-1599	668	.1	26451	7.6	1854	.5	12983	5.1	38054	1.0	177395	5.4	63795	4.2	195332	3.4
600-1649	4272	1.0	36570	10.6	1204	.3	11052	4.4	69004	1.8	203441	6.2	54062	3.6	220310	3.8
650-1699	3626	.8	35401	10.2	1203	.3	12053	4.8	59649	1.5	212368	6.5	65552	4.3	233005	4.0
700-1749	1608	.4	60171	17.4	650	.2	11316	4.5	59000	1.5	305307	9.3	63319	4.2	280136	4.8
750-1799	2602	.6	30607	8.8	1156	.3	11301	4.5	77359	2.0	189614	5.8	41917	2.8	217560	3.7
800-1849	3531	.8	20816	6.0	1387	.4	6426	2.5	87820	2.3	159894	4.9	47790	3.1	231185	4.0
850-1899	3184	.7	14186	4.1	2240	.6	2178	.9	86766	2.2	116963	3.6	37676	2.5	197830	3.4
900-1949	1223	.3	6035	1.7	2473	.7	0	.0	97931	2.5	80686	2.5	39190	2.6	198345	3.4
950-1999	1270	.3	6702	1.9	2131	.6	2390	.9	54619	1.4	87850	2.7	35027	2.3	152509	2.6
000-2049	1655	.4	6158	1.8	446	.1	2105	.8	33125	.9	90340	2.7	35489	2.3	138228	2.4
050-2099	993	.2	4099	1.2	276	.1	1796	.7	20909	.5	83746	2.5	22712	1.5	113038	1.9
100-2149	800	.2	6961	2.0	0	.0	1759	.7	12591	.3	95807	2.9	16973	1.1	106332	1.8
150-2199	1068	.2	2565	.7	0	.0	2522	1.0	9849	.3	63252	1.9	11679	.8	72471	1.2
200-2249	486	.1	6031	1.7	0	.0	1202	.5	7027	.2	66805	2.0	9551	.6	67945	1.2
250-2299	540	.1	3044	.9	0	.0	259	.1	3233	.1	34436	1.0	7051	.5	37034	.6
300-2349	258	.1	2734	.8	0	.0	739	.3	4416	.1	32042	1.0	5997	.4	34994	.6
350-2399	268	.1	1656	.5	367	.1	0	.0	3094	.1	17197	.5	2086	.1	17794	.3
OTAL	446058	100.0	345996	100.0	378459	100.0	253006	100.0	3862294	100.0	3286218	100.0	1517770	100.0	5819252	100.0



TABLE 2.3.12A

1990 DISTRIBUTION OF REGIONAL WEEKDAY TRIPS BY TIME OF DAY  
 SHARED RIDE (1990 SURVEY CODES 1-6,19,20 WITH OCC>1)

TIME AT TRIP DEST	HOME BASED WORK				HOME BASED SCHOOL				TOTAL HOME BASED				NONHOME BASED		TOTAL TRIPS	
	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	FROM HOME NUMBER	PCT	TO HOME NUMBER	PCT	NUMBER	PCT	NUMBER	PCT
0- 49	0	.0	862	.2	0	.0	0	.0	935	.0	4974	.2	452	.0	4637	.1
50- 99	0	.0	1331	.4	0	.0	124	.0	1105	.0	8038	.2	606	.0	6839	.1
100- 149	0	.0	1031	.3	0	.0	0	.0	195	.0	7205	.2	228	.0	5565	.1
150- 199	0	.0	1386	.4	0	.0	0	.0	561	.0	7819	.2	1124	.1	6733	.1
200- 249	0	.0	0	.0	0	.0	0	.0	0	.0	3074	.1	980	.1	4054	.1
250- 299	0	.0	0	.0	0	.0	0	.0	321	.0	1739	.1	229	.0	2289	.0
300- 349	0	.0	2630	.8	0	.0	0	.0	269	.0	9348	.3	320	.0	4677	.1
350- 399	0	.0	533	.2	0	.0	0	.0	0	.0	2361	.1	0	.0	1295	.0
400- 449	0	.0	413	.1	0	.0	0	.0	416	.0	1238	.0	420	.0	1249	.0
450- 499	322	.1	176	.1	0	.0	0	.0	1258	.0	529	.0	593	.0	1384	.0
500- 549	2688	.6	472	.1	1117	.3	0	.0	12761	.3	1417	.0	80	.0	5702	.1
550- 599	7559	1.7	0	.0	1048	.3	0	.0	33094	.9	0	.0	3203	.2	19084	.3
600- 649	16583	3.7	1153	.3	1954	.5	0	.0	63295	1.6	4771	.1	743	.0	29429	.5
650- 699	33335	7.5	894	.3	3380	.9	0	.0	120960	3.1	2815	.1	3037	.2	51592	.9
700- 749	45757	10.3	270	.1	23894	6.3	0	.0	234055	6.1	1507	.0	7169	.5	102889	1.8
750- 799	73303	16.4	658	.2	84020	22.2	634	.3	512517	13.3	5682	.2	14129	.9	215097	3.7
800- 849	79000	17.7	736	.2	136377	36.0	1209	.5	730385	18.9	16449	.5	27418	1.8	339608	5.8
850- 899	68995	15.5	1074	.3	61809	16.3	0	.0	464430	12.0	11946	.4	24244	1.6	236864	4.1
900- 949	31205	7.0	1238	.4	22412	5.9	198	.1	211550	5.5	10800	.3	21502	1.4	133745	2.3
950- 999	10863	2.4	187	.1	6299	1.7	978	.4	93144	2.4	12896	.4	23106	1.5	92492	1.6
1000-1049	13032	2.9	687	.2	2860	.8	411	.2	97097	2.5	19099	.6	35601	2.3	117817	2.0
1050-1099	6917	1.6	1201	.3	996	.3	669	.3	60744	1.6	24271	.7	36769	2.4	102219	1.8
1100-1149	4074	.9	1492	.4	1679	.4	819	.3	70920	1.8	25255	.8	53985	3.6	134031	2.3
1150-1199	1014	.2	1564	.5	4282	1.1	5128	2.0	53331	1.4	50337	1.5	72555	4.8	152246	2.6
1200-1249	1127	.3	3066	.9	2274	.6	9009	3.6	48413	1.3	81797	2.5	104969	6.9	204227	3.5
1250-1299	2234	.5	3274	.9	3108	.8	4603	1.8	40342	1.0	67187	2.0	80434	5.3	161523	2.8
1300-1349	4010	.9	2999	.9	1694	.4	2047	.8	57390	1.5	46545	1.4	92098	6.1	174530	3.0
1350-1399	3313	.7	2326	.7	1119	.3	11480	4.5	33850	.9	76894	2.3	74874	4.9	149140	2.6
1400-1449	2920	.7	4415	1.3	246	.1	9668	3.8	50281	1.3	83333	2.5	65649	4.3	164763	2.8
1450-1499	2336	.5	8947	2.6	966	.3	39998	15.8	47710	1.2	203052	6.2	77066	5.1	223334	3.8
1500-1549	4270	1.0	16167	4.7	1315	.3	62540	24.7	65591	1.7	312758	9.5	94007	6.2	303773	5.2
1550-1599	2886	.6	15423	4.5	1172	.3	32077	12.7	48552	1.3	215723	6.6	63805	4.2	224964	3.9
1600-1649	1049	.2	25417	7.3	1228	.3	8895	3.5	47556	1.2	164847	5.0	60901	4.0	200126	3.4
1650-1699	6194	1.4	32474	9.4	1192	.3	10106	4.0	71154	1.8	190234	5.8	58913	3.9	220370	3.8
1700-1749	1895	.4	42787	12.4	867	.2	14856	5.9	60595	1.6	251633	7.7	69250	4.6	260667	4.5
1750-1799	2786	.6	43663	12.6	1175	.3	9417	3.7	77474	2.0	240365	7.3	49870	3.3	253626	4.4
1800-1849	3826	.9	44714	12.9	881	.2	9785	3.9	81106	2.1	251565	7.7	47875	3.2	262134	4.5
1850-1899	2056	.5	18010	5.2	2052	.5	3875	1.5	75964	2.0	131878	4.0	43458	2.9	199312	3.4
1900-1949	2058	.5	18398	5.3	2293	.6	1543	.6	99335	2.6	128267	3.9	38205	2.5	217222	3.7
1950-1999	1586	.4	6831	2.0	1613	.4	2032	.8	75038	1.9	84099	2.6	42971	2.8	177985	3.1
2000-2049	1422	.3	6794	2.0	2490	.7	1143	.5	43422	1.1	84795	2.6	31705	2.1	136225	2.3
2050-2099	2022	.5	4104	1.2	276	.1	2469	1.0	29839	.8	96094	2.9	30006	2.0	138197	2.4
2100-2149	208	.0	5967	1.7	0	.0	1698	.7	11658	.3	84926	2.6	17203	1.1	98041	1.7
2150-2199	848	.2	5616	1.6	0	.0	1330	.5	10575	.3	74018	2.3	15059	1.0	84064	1.4
2200-2249	709	.2	5462	1.6	0	.0	2840	1.1	9505	.2	66559	2.0	10049	.7	68090	1.2
2250-2299	1129	.3	3517	1.0	0	.0	685	.3	4477	.1	44853	1.4	6666	.4	45334	.8
2300-2349	0	.0	4236	1.2	0	.0	0	.0	4300	.1	40069	1.2	9489	.6	45386	.8
2350-2399	526	.1	1401	.4	367	.1	739	.3	4827	.1	31160	.9	4755	.3	34678	.6
TOTAL	446058	100.0	345996	100.0	378459	100.0	253006	100.0	3862294	100.0	3286218	100.0	1517770	100.0	5819252	100.0

TABLE 2.3.13A  
TRIPS-IN-MOTION ANALYSIS FOR 1990 WEEKDAY TOTAL TRIPS

BEGIN HH.MM	TRIPS WITHIN FROM HOME	60 MIN. TO HOME	FROM BEGIN TIME FOR (01) NON- HOME	SET TOTAL	DAILY TOTAL	SET HOME-BASED WORK PCT/SET= 5.71 253600	TOTAL TRIPS -- DAILY IS TOTAL TRIPS ALL MODES 11.41 507200	17.12 760800	22.83 1014400	28.53 1268000	34.24 1521600	39.95 1775200
0.00	1,260	17,338	0	18,598	46,816	.SD						
0.15	816	16,204	0	17,020	41,897	.SD						
0.30	613	14,550	0	15,163	35,137	.D						
0.45	514	11,641	0	12,155	28,717	.D						
1.00	208	8,937	0	9,145	24,607	.D						
1.15	359	7,445	0	7,804	22,296	.D						
1.30	720	7,130	0	7,850	20,357	.D						
1.45	1,470	6,978	0	8,448	18,916	.D						
2.00	1,990	6,814	0	8,804	18,476	.D						
2.15	3,335	6,908	0	10,243	18,382	.D						
2.30	5,305	7,159	0	12,464	19,803	.D						
2.45	6,445	6,817	0	13,262	19,522	.D						
3.00	6,701	5,823	0	12,524	16,811	.D						
3.15	7,959	4,508	0	12,467	15,206	.D						
3.30	10,486	3,974	0	14,460	17,131	.D						
3.45	17,886	3,671	0	21,557	26,070	.D						
4.00	26,067	3,278	0	29,345	36,289	.D						
4.15	40,387	2,827	0	43,214	53,561	.SD						
4.30	60,437	2,733	0	63,170	79,189	.SSD						
4.45	94,473	2,738	0	97,211	125,006	.SSSD						
5.00	136,802	2,881	0	139,683	180,362	.SSSSFSD						
5.15	196,130	4,463	0	200,593	259,775	.SSSSSSSS=D						
5.30	265,806	6,480	0	272,286	350,247	.SSSSSSSSFS=D						
5.45	348,712	8,256	0	356,968	455,360	.SSSSSSSSSSSS=D						
6.00	437,301	8,946	0	446,247	570,993	.SSSSSSSSSSSSFS=D						
6.15	550,258	10,280	0	560,538	746,608	.SSSSSSSSSSSSSSSSSS=D						
6.30	650,797	12,146	0	662,943	938,563	.SSSSSSSSSSSSSSSSSSSS=D						
6.45	735,687	13,282	0	748,969	1,167,767	.SSSSSSSSSSSSSSSSSSSSFS=D						
7.00	804,497	14,185	0	818,682	1,417,094	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
7.15	857,994	14,591	0	872,585	1,688,701	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
7.30	866,268	15,057	0	881,325	1,876,238	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
7.45	791,068	14,649	0	805,717	1,845,399	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
8.00	666,748	13,765	0	680,513	1,634,309	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
8.15	538,955	14,031	0	552,986	1,358,279	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
8.30	432,082	13,375	0	445,457	1,121,851	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
8.45	322,281	12,350	0	334,631	944,398	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
9.00	230,597	12,690	0	243,287	827,559	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
9.15	170,086	12,214	0	182,300	791,161	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
9.30	142,910	12,447	0	155,357	801,510	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
9.45	115,322	14,193	0	129,515	791,483	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
10.00	90,609	14,594	0	105,203	765,670	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
10.15	70,609	15,390	0	85,999	761,952	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
10.30	62,618	17,097	0	79,715	801,095	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
10.45	55,101	21,173	0	76,274	860,048	.SSSSSSSSSSSSSSSSSSSSSSSS=D						
11.00	48,547	26,444	0	74,991	928,380	.SSSSSSSSSSSSSSSSSSSSSSSSFS=D						
11.15	45,762	40,806	0	86,568	1,051,775	.SSSSSSSSSSSSSSSSSSSSSSSSSS=D						
11.30	45,090	54,354	0	99,444	1,164,045	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
11.45	43,573	58,580	0	102,153	1,188,267	.SSSSSSSSSSSSSSSSSSSSSSSSSS=D						
12.00	45,353	56,962	0	102,315	1,158,629	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
12.15	52,748	55,426	0	108,174	1,128,330	.SSSSSSSSSSSSSSSSSSSSSSSSSS=D						
12.30	57,783	54,548	0	112,331	1,114,168	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
12.45	56,468	53,849	0	110,317	1,087,099	.SSSSSSSSSSSSSSSSSSSSSSSSSS=D						
13.00	52,014	52,533	0	104,547	1,041,248	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
13.15	48,709	55,730	0	104,439	1,018,539	.SSSSSSSSSSSSSSSSSSSSSSSSSS=D						
13.30	47,106	64,524	0	111,630	1,055,453	.SSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
13.45	45,334	80,951	0	126,285	1,140,361	.SSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
14.00	45,687	96,033	0	141,720	1,256,179	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
14.15	49,555	121,119	0	170,674	1,416,896	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
14.30	54,243	151,646	0	205,889	1,531,147	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
14.45	53,731	197,784	0	251,515	1,558,737	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
15.00	47,474	235,883	0	283,357	1,488,912	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
15.15	42,826	283,365	0	326,191	1,414,432	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
15.30	40,328	331,941	0	372,269	1,386,575	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
15.45	37,511	387,856	0	425,367	1,385,288	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
16.00	38,821	434,688	0	473,509	1,411,626	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
16.15	40,759	540,669	0	581,428	1,542,821	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=D						
16.30	39,261	647,610	0	686,871	1,683,032	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSFS=D						
16.45	36,233	676,482	0	712,715	1,705,997	.SS=D						
17.00	34,157	671,476	0	705,633	1,675,486	.SSFS=D						
17.15	32,872	625,641	0	658,513	1,600,734	.SS=D						
17.30	32,360	564,833	0	597,193	1,511,500	.SSFS=D						
17.45	30,187	477,927	0	508,114	1,373,104	.SS=D						
18.00	26,982	392,170	0	419,152	1,223,910	.SSFS=D						
18.15	23,452	310,609	0	334,061	1,093,189	.SS=D						
18.30	21,167	252,307	0	273,474	1,021,380	.SSFS=D						
18.45	18,227	203,008	0	221,235	939,084	.SS=D						
19.00	15,157	158,359	0	173,516	828,378	.SSFS=D						
19.15	14,441	122,906	0	137,347	726,867	.SS=D						
19.30	14,621	105,034	0	119,655	667,380	.SSFS=D						
19.45	13,752	86,782	0	100,534	592,189	.SS=D						
20.00	11,589	73,997	0	85,586	525,435	.SSFS=D						
20.15	9,934	68,221	0	78,155	484,956	.SS=D						
20.30	9,303	65,435	0	74,738	449,786	.SSFS=D						
20.45	7,914	61,418	0	69,332	409,849	.SS=D						
21.00	6,940	61,316	0	68,256	382,533	.SSFS=D						
21.15	7,581	60,455	0	68,036	353,816	.SS=D						
21.30	9,146	56,692	0	65,838	327,321	.SSFS=D						
21.45	11,097	49,258	0	60,355	293,262	.SS=D						
22.00	12,454	43,207	0	55,661	258,143	.SSFS=D						
22.15	13,237	42,183	0	55,420	225,408	.SS=D						
22.30	13,208	43,179	0	56,387	206,292	.SSFS=D						
22.45	11,282	43,938	0	55,220	186,650	.SS=D						
23.00	8,473	43,691	0	52,164	161,587	.SSFS=D						
23.15	5,919	39,398	0	45,317	130,970	.SS=D						
23.30	4,760	34,203	0	38,963	108,839	.SSFS=D						
23.45	2,845	24,151	0	26,996	71,340	.SS=D						
2,389,684				0	16,859,552	TOTAL TRIPS (18,221 RECORDS)						
2,054,160				4,443,844								



TRIPS-IN-MOTION ANALYSIS FOR 1990 WEEKDAY PERSON TRIPS

[illegible]



TABLE 2.3.15A  
TRIPS-IN-MOTION ANALYSIS FOR 1990 WEEKDAY TRANSIT TRIPS

BEGIN HH.MM	TRIPS FROM HOME	TO HOME	60 MIN. NON- HOME	FROM BEGIN TIME SET TOTAL	FOR (01) DAILY TOTAL	SET HOME BASED WORK PCT/SET= 5.93 11.86 17.79 23.72 29.65 35.58 41.51 47.44 26000 52000 78000 104000 130000 156000 182000 208000	TRANSIT PASSENGER	-- DAILY IS TOTAL TRANSIT											
0.00	0	1,172	0	1,172	1,933	.D	.	.	.	.	.	.	.	.	.	.	.	.	.
0.15	0	1,046	0	1,046	1,807	.D	.	.	.	.	.	.	.	.	.	.	.	.	.
0.30	0	727	0	727	1,221	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.45	0	368	0	368	595	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.00	0	223	0	223	337	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.15	0	400	0	400	400	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.30	0	559	0	559	559	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.45	0	559	0	559	699	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.00	0	438	0	438	719	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.15	104	317	0	421	702	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.30	209	159	0	368	649	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.45	209	286	0	495	636	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3.00	209	573	0	782	782	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3.15	408	573	0	981	981	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3.30	970	573	0	1,543	1,543	.D	.	.	.	.	.	.	.	.	.	.	.	.	.
3.45	2,477	287	0	2,764	2,870	.D	.	.	.	.	.	.	.	.	.	.	.	.	.
4.00	3,920	0	0	3,920	4,133	.SD	.	.	.	.	.	.	.	.	.	.	.	.	.
4.15	5,652	0	0	5,652	5,932	.SD	.	.	.	.	.	.	.	.	.	.	.	.	.
4.30	8,274	0	0	8,274	8,726	.SSD	.	.	.	.	.	.	.	.	.	.	.	.	.
4.45	11,979	0	0	11,979	12,602	.SSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
5.00	17,169	0	0	17,169	18,163	.SSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
5.15	26,341	0	0	26,341	28,701	.SSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
5.30	37,430	0	0	37,430	41,129	.SSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
5.45	49,614	0	0	49,614	56,014	.SSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
6.00	62,413	0	0	62,413	72,241	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
6.15	78,437	153	0	78,590	99,563	.SSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
6.30	93,529	307	0	93,836	131,641	.SSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
6.45	109,879	532	0	110,411	164,083	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
7.00	122,062	758	0	122,820	190,741	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
7.15	123,876	758	0	124,634	210,688	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
7.30	120,928	837	0	121,765	218,181	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
7.45	111,398	917	0	112,315	200,752	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
8.00	91,256	823	0	92,079	169,817	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
8.15	70,097	728	0	70,825	138,589	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
8.30	56,180	575	0	56,755	111,945	.SSSSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
8.45	41,799	421	0	42,220	87,323	.SSSSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
9.00	28,878	211	0	29,089	68,975	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
9.15	21,213	0	0	21,213	60,938	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
9.30	17,319	0	0	17,319	59,656	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
9.45	12,886	0	0	12,886	54,453	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
10.00	9,158	0	0	9,158	46,484	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
10.15	6,784	180	0	6,964	43,667	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
10.30	6,115	581	0	6,696	47,178	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
10.45	5,500	960	0	6,460	51,372	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
11.00	4,518	1,117	0	5,635	52,198	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
11.15	4,126	1,900	0	6,026	56,662	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
11.30	4,713	2,867	0	7,580	63,630	.TFS	.	.	.	.	.	.	.	.	.	.	.	.	.
11.45	4,205	3,613	0	7,818	61,695	.TFS	.	.	.	.	.	.	.	.	.	.	.	.	.
12.00	3,818	4,340	0	8,158	59,047	.FTS	.	.	.	.	.	.	.	.	.	.	.	.	.
12.15	3,926	4,785	0	8,711	62,090	.STS	.	.	.	.	.	.	.	.	.	.	.	.	.
12.30	3,724	5,122	0	8,846	64,967	.FTS	.	.	.	.	.	.	.	.	.	.	.	.	.
12.45	3,863	5,644	0	9,507	66,596	.FTSS	.	.	.	.	.	.	.	.	.	.	.	.	.
13.00	3,858	5,829	0	9,687	66,492	.FTSS	.	.	.	.	.	.	.	.	.	.	.	.	.
13.15	3,924	6,584	0	10,508	69,771	.SFTS	.	.	.	.	.	.	.	.	.	.	.	.	.
13.30	4,189	7,652	0	11,841	74,932	.SFTS	.	.	.	.	.	.	.	.	.	.	.	.	.
13.45	3,996	9,124	0	13,120	80,805	.SFSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
14.00	3,720	10,294	0	14,014	87,677	.FSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
14.15	4,299	12,500	0	16,799	103,188	.SFSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
14.30	5,255	15,725	0	20,980	122,448	.SFSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
14.45	5,201	19,359	0	24,560	129,725	.SFSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
15.00	4,467	21,765	0	26,232	123,839	.SFSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
15.15	3,820	28,484	0	32,304	121,655	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
15.30	2,922	37,170	0	40,092	125,709	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
15.45	1,948	47,043	0	48,991	127,871	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
16.00	1,518	56,942	0	58,460	129,205	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
16.15	1,323	77,629	0	78,952	147,989	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
16.30	1,400	96,796	0	98,196	167,620	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
16.45	1,890	103,031	0	104,921	171,663	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
17.00	2,157	106,097	0	108,254	169,449	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
17.15	1,857	102,750	0	104,607	160,200	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
17.30	1,703	96,213	0	97,916	151,585	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
17.45	971	83,283	0	84,254	134,336	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
18.00	449	66,811	0	67,260	112,787	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
18.15	662	51,398	0	52,060	91,135	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
18.30	644	40,283	0	40,927	73,987	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
18.45	1,133	29,548	0	30,681	59,541	.SSSSSSSSSSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
19.00	1,432	21,474	0	22,906	48,764	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
19.15	1,359	16,673	0	18,032	40,339	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
19.30	1,500	13,155	0	14,655	34,104	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
19.45	1,384	10,064	0	11,448	26,653	.FSSSSSTS	.	.	.	.	.	.	.	.	.	.	.	.	.
20.00	1,267	7,662	0	8,929	20,510	.SSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
20.15	1,267	6,505	0	7,772	18,387	.SSSSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
20.30	1,127	5,473	0	6,600	16,292	.STS	.	.	.	.	.	.	.	.	.	.	.	.	.
20.45	773	4,455	0	5,228	13,464	.SSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
21.00	666	4,891	0	5,557	13,156	.SSSD	.	.	.	.	.	.	.	.	.	.	.	.	.
21.15	1,454	5,020	0	6,474	14,517	.FS	.	.	.	.	.	.	.	.	.	.	.	.	.
21.30	2,136	4,571	0	6,707	15,408	.FTS	.	.	.	.	.	.	.	.	.	.	.	.	.
21.45	2,136	3,809	0	5,945	14,734	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
22.00	2,010	2,779	0	4,789	13,891	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
22.15	1,884	2,265	0	4,149	12,726	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
22.30	1,731	2,155	0	3,886	11,000	.S	.	.	.	.	.	.	.	.	.	.	.	.	.
22.45	1,470	2,677	0	4,147	9,829	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
23.00	682	3,381	0	4,063	9,372	.TS	.	.	.	.	.	.	.	.	.	.	.	.	.
23.15	0	3,618	0	3,618	8,678	.S	.	.	.	.	.	.	.	.	.	.	.	.	.
23.30	0	3,161	0	3,161	7,366	.S	.	.	.	.	.	.	.	.	.	.	.	.	.
23.45	0	1,887	0	1,887	4,127	.SD	.	.	.	.	.	.	.	.	.	.	.	.	.
237,277	0	1,023,016	0	1,023,016	TOTAL TRIPS (1,627 RECORDS)														
201,137	0	438,414	0	438,414															

TABLE 2.3.16A  
TRIPS-IN-MOTION ANALYSIS - 1990 WEEKDAY VEHICLE DRIVER TRIPS

TRIPS WITHIN 60 MIN. FROM BEGIN TIME FOR (01) SET HOME BASED WORK VEHICLE DRIVER TRIPS -- DAILY IS VEHICLE DRIVER TRIPS												
BEGIN HH.MM	FROM HOME	TO HOME	NON- HOME	SET TOTAL	DAILY TOTAL	PCT/SET= 4.46 154400	8.92 308800	13.38 463200	17.84 617600	22.29 772000	26.75 926400	31.21 1080800
0.00	1,129	13,626	0	14,755	34,652	.SD	.	.	.	.	.	.
0.15	816	13,303	0	14,119	30,908	.SD	.	.	.	.	.	.
0.30	613	12,693	0	13,306	26,060	.SD	.	.	.	.	.	.
0.45	514	10,499	0	11,013	21,168	.D	.	.	.	.	.	.
1.00	208	8,142	0	8,350	17,067	.D	.	.	.	.	.	.
1.15	359	6,559	0	6,918	14,593	.D	.	.	.	.	.	.
1.30	720	6,056	0	6,776	13,941	.D	.	.	.	.	.	.
1.45	1,470	5,875	0	7,345	13,889	.D	.	.	.	.	.	.
2.00	1,990	5,583	0	7,573	13,984	.D	.	.	.	.	.	.
2.15	2,980	5,049	0	8,029	13,763	.D	.	.	.	.	.	.
2.30	4,594	4,801	0	9,395	14,973	.D	.	.	.	.	.	.
2.45	5,734	4,177	0	9,911	15,313	.D	.	.	.	.	.	.
3.00	6,241	3,404	0	9,645	13,535	.D	.	.	.	.	.	.
3.15	7,469	3,001	0	10,470	12,709	.D	.	.	.	.	.	.
3.30	9,352	3,135	0	12,487	14,518	.D	.	.	.	.	.	.
3.45	14,291	3,384	0	17,675	21,519	.D	.	.	.	.	.	.
4.00	19,771	3,278	0	23,049	29,240	.SD	.	.	.	.	.	.
4.15	31,149	2,744	0	33,893	41,990	.SSD	.	.	.	.	.	.
4.30	46,249	2,567	0	48,816	60,246	.SSSD	.	.	.	.	.	.
4.45	71,646	2,402	0	74,048	93,746	.SSSSD	.	.	.	.	.	.
5.00	103,522	2,322	0	105,844	134,927	.SSSSSSD	.	.	.	.	.	.
5.15	147,892	3,740	0	151,632	193,415	.SSSSSSSSSD	.	.	.	.	.	.
5.30	199,100	5,513	0	204,613	257,726	.SSSSSSSSSSSD	.	.	.	.	.	.
5.45	259,788	6,800	0	266,588	329,559	.SSSSSSSSSSSSSD	.	.	.	.	.	.
6.00	326,507	7,440	0	333,947	407,368	.SSSSSSSSSSSSSD	.	.	.	.	.	.
6.15	412,726	8,714	0	421,440	516,063	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
6.30	489,013	10,255	0	499,268	624,439	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
6.45	548,755	11,300	0	560,055	735,200	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
7.00	596,238	12,068	0	608,306	845,802	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
7.15	642,070	12,020	0	654,090	958,664	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
7.30	655,805	12,254	0	668,059	1,030,719	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
7.45	600,041	12,081	0	612,122	1,010,896	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
8.00	508,160	11,452	0	519,612	915,328	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
8.15	412,611	11,797	0	424,408	808,541	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
8.30	329,347	11,168	0	340,515	720,936	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
8.45	244,137	10,358	0	254,495	637,356	.TSSSSSSSSSSSSSD	.	.	.	.	.	.
9.00	172,386	10,938	0	183,324	570,160	.TSSSSSSSSSSSD	.	.	.	.	.	.
9.15	124,523	10,813	0	135,336	548,098	.TSSSSSSSSSSSD	.	.	.	.	.	.
9.30	103,358	10,951	0	114,309	557,053	.TSSSSSSSSSSSD	.	.	.	.	.	.
9.45	84,324	12,381	0	96,705	557,201	.TSSSSSSSSSSSD	.	.	.	.	.	.
10.00	68,703	12,692	0	81,395	545,939	.TSSSSSSSSSSSD	.	.	.	.	.	.
10.15	55,630	13,076	0	68,706	541,511	.TSSSSSSSSSSSD	.	.	.	.	.	.
10.30	49,447	14,065	0	63,512	562,005	.TSSSSSSSSSSSD	.	.	.	.	.	.
10.45	43,200	17,865	0	61,065	591,704	.TSSSSSSSSSSSD	.	.	.	.	.	.
11.00	38,691	23,289	0	61,980	629,490	.TSSSSSSSSSSSD	.	.	.	.	.	.
11.15	36,503	35,562	0	72,065	701,124	.TSSSSSSSSSSSD	.	.	.	.	.	.
11.30	35,478	46,755	0	82,233	764,375	.TSSSSSSSSSSSD	.	.	.	.	.	.
11.45	34,793	49,708	0	84,501	776,914	.TSSSSSSSSSSSD	.	.	.	.	.	.
12.00	36,903	46,562	0	83,465	756,594	.TSSSSSSSSSSSD	.	.	.	.	.	.
12.15	43,940	42,638	0	86,578	738,272	.TSSSSSSSSSSSD	.	.	.	.	.	.
12.30	48,694	40,031	0	88,725	731,196	.TSSSSSSSSSSSD	.	.	.	.	.	.
12.45	47,190	38,617	0	85,807	710,079	.TSSSSSSSSSSSD	.	.	.	.	.	.
13.00	42,929	38,703	0	81,632	674,597	.TSSSSSSSSSSSD	.	.	.	.	.	.
13.15	39,439	42,160	0	81,599	654,182	.TSSSSSSSSSSSD	.	.	.	.	.	.
13.30	37,538	48,414	0	85,952	664,064	.TSSSSSSSSSSSD	.	.	.	.	.	.
13.45	35,783	60,380	0	96,163	685,250	.TSSSSSSSSSSSD	.	.	.	.	.	.
14.00	36,191	72,250	0	108,441	717,764	.TSSSSSSSSSSSD	.	.	.	.	.	.
14.15	38,719	91,229	0	129,948	763,967	.TSSSSSSSSSSSD	.	.	.	.	.	.
14.30	41,092	114,187	0	155,279	799,852	.TSSSSSSSSSSSD	.	.	.	.	.	.
14.45	40,741	152,498	0	193,239	829,776	.TSSSSSSSSSSSD	.	.	.	.	.	.
15.00	35,869	186,533	0	222,402	831,192	.TSSSSSSSSSSSD	.	.	.	.	.	.
15.15	31,638	222,867	0	254,505	841,006	.TSSSSSSSSSSSD	.	.	.	.	.	.
15.30	30,600	256,733	0	287,333	865,543	.TSSSSSSSSSSSD	.	.	.	.	.	.
15.45	29,221	298,012	0	327,233	899,327	.TSSSSSSSSSSSD	.	.	.	.	.	.
16.00	30,070	330,857	0	360,927	934,378	.TSSSSSSSSSSSD	.	.	.	.	.	.
16.15	31,526	402,576	0	434,102	1,022,293	.TSSSSSSSSSSSD	.	.	.	.	.	.
16.30	30,747	479,083	0	509,830	1,117,493	.TSSSSSSSSSSSD	.	.	.	.	.	.
16.45	28,445	499,617	0	528,062	1,141,839	.TSSSSSSSSSSSD	.	.	.	.	.	.
17.00	26,766	493,467	0	520,233	1,129,304	.TSSSSSSSSSSSD	.	.	.	.	.	.
17.15	26,174	455,534	0	481,708	1,075,684	.TSSSSSSSSSSSD	.	.	.	.	.	.
17.30	25,515	403,169	0	428,684	1,003,018	.TSSSSSSSSSSSD	.	.	.	.	.	.
17.45	24,157	339,060	0	363,217	902,378	.TSSSSSSSSSSSD	.	.	.	.	.	.
18.00	22,183	280,211	0	302,394	801,868	.TSSSSSSSSSSSD	.	.	.	.	.	.
18.15	19,552	224,186	0	243,738	713,854	.TSSSSSSSSSSSD	.	.	.	.	.	.
18.30	18,036	184,660	0	202,696	659,134	.TSSSSSSSSSSSD	.	.	.	.	.	.
18.45	15,064	149,816	0	164,880	598,908	.TSSSSSSSSSSSD	.	.	.	.	.	.
19.00	12,067	118,195	0	130,262	522,532	.TSSSSSSSSSSSD	.	.	.	.	.	.
19.15	11,375	92,229	0	103,604	454,427	.TSSSSSSSSSSSD	.	.	.	.	.	.
19.30	11,316	79,686	0	91,002	414,369	.TSSSSSSSSSSSD	.	.	.	.	.	.
19.45	10,748	67,277	0	78,025	368,640	.TSSSSSSSSSSSD	.	.	.	.	.	.
20.00	9,113	58,666	0	67,779	332,367	.TSSSSSSSSSSSD	.	.	.	.	.	.
20.15	7,423	54,565	0	61,988	312,481	.TSSSSSSSSSSSD	.	.	.	.	.	.
20.30	6,855	52,433	0	59,288	295,094	.TSSSSSSSSSSSD	.	.	.	.	.	.
20.45	5,834	48,730	0	54,564	275,960	.TSSSSSSSSSSSD	.	.	.	.	.	.
21.00	4,851	48,029	0	52,880	261,589	.TSSSSSSSSSSSD	.	.	.	.	.	.
21.15	4,667	46,101	0	50,768	239,426	.TSSSSSSSSSSSD	.	.	.	.	.	.
21.30	5,576	42,553	0	48,129	220,262	.TSSSSSSSSSSSD	.	.	.	.	.	.
21.45	7,721	37,254	0	44,975	197,031	.TSSSSSSSSSSSD	.	.	.	.	.	.
22.00	9,322	32,618	0	41,940	172,472	.TSSSSSSSSSSSD	.	.	.	.	.	.
22.15	10,501	32,649	0	43,150	153,719	.TSSSSSSSSSSSD	.	.	.	.	.	.
22.30	10,876	34,270	0	45,146	143,908	.TSSSSSSSSSSSD	.	.	.	.	.	.
22.45	9,277	34,435	0	43,712	130,784	.TSSSSSSSSSSSD	.	.	.	.	.	.
23.00	7,257	33,628	0	40,885	113,568	.TSSSSSSSSSSSD	.	.	.	.	.	.
23.15	5,255	30,412	0	35,667	92,876	.TSSSSSSSSSSSD	.	.	.	.	.	.
23.30	4,098	26,290	0	30,388	78,362	.TSSSSSSSSSSSD	.	.	.	.	.	.
23.45	2,450	18,548	0	20,998	52,333	.TSSSSSSSSSSSD	.	.	.	.	.	.
1,868,355					10,859,596	TOTAL TRIPS (14,554 RECORDS)						
1,594,344					3,462,699							



TABLE 2.3.17A  
TRIPS-IN-MOTION ANALYSIS - 1990 WEEKDAY VEHICLE PASSENGER TRIPS

BEGIN HH:MM	TRIPS WITHIN		60 MIN. NON- HOME	FROM SET TOTAL	DAILY TOTAL	PCT/SET=	FOR (01) SET ALL PURPOSES VEHICLE PASSENGER TRIPS-- DAILY IS ALL PURPOSES VEH. PSGRS.									
	FROM HOME	TO HOME					1.41 39400	2.81 78800	4.22 118200	5.63 157600	7.03 197000	8.44 236400	9.85 275800	11.25 315200		
0.00	631	7,410	954	8,995	8,995	.SD										
0.15	471	6,377	910	7,758	7,758	.SD										
0.30	423	4,778	894	6,095	6,095	.TD										
0.45	423	3,744	762	4,929	4,929	.D										
1.00	408	3,580	726	4,714	4,714	.D										
1.15	554	3,662	727	4,943	4,943	.D										
1.30	600	2,743	648	3,991	3,991	.D										
1.45	403	1,991	569	2,963	2,963	.D										
2.00	320	2,109	399	2,828	2,828	.D										
2.15	320	2,334	229	2,883	2,883	.D										
2.30	160	2,787	115	3,062	3,062	.D										
2.45	0	2,762	0	2,762	2,762	.D										
3.00	0	2,075	0	2,075	2,075	.D										
3.15	185	1,163	0	1,348	1,348	.										
3.30	371	495	0	866	866	.										
3.45	1,325	115	0	1,440	1,440	.										
4.00	2,675	0	0	2,675	2,675	.D										
4.15	4,815	83	0	4,898	4,898	.D										
4.30	8,233	166	153	8,552	8,552	.SD										
4.45	14,189	464	541	15,194	15,194	..SSD										
5.00	19,554	943	843	21,340	21,340	..SSSD										
5.15	25,809	1,235	1,358	28,402	28,402	..SSSSD										
5.30	34,630	1,479	1,987	38,096	38,096	..NSSSSSFD										
5.45	45,391	1,836	2,141	49,368	49,368	..NSSSSSSSSFD										
6.00	56,891	1,498	2,203	60,592	60,592	..NSSSSSSSSFD										
6.15	75,510	1,461	3,280	80,251	80,251	..NSSSSSSSSFD										
6.30	99,925	2,123	5,358	107,406	107,406	..NSSSSSSSSFD										
6.45	145,037	2,035	8,695	155,767	155,767	..TNSSSSSSSSFD										
7.00	197,978	2,239	13,965	214,182	214,182	..TSNSSSSSSFD										
7.15	256,172	4,080	20,533	280,785	280,785	..TSNSSSSSSFD										
7.30	299,418	5,612	25,654	330,684	330,684	..TSNSSSSSSFD										
7.45	291,562	6,837	28,292	326,691	326,691	..STSSSSSSSFD										
8.00	244,979	7,631	28,341	280,951	280,951	..STSSSSSSSFD										
8.15	179,127	6,630	25,588	211,345	211,345	..STSSSSSSSFD										
8.30	118,050	6,114	21,643	145,807	145,807	..STSSSSSSSFD										
8.45	79,485	7,324	21,351	108,160	108,160	..STSSSSSSSFD										
9.00	62,321	8,301	21,656	92,278	92,278	..STSSSSSSSFD										
9.15	54,354	9,674	23,204	87,232	87,232	..STSSSSSSSFD										
9.30	50,170	10,858	26,430	87,458	87,458	..STSSSSSSSFD										
9.45	47,176	12,645	29,838	89,659	89,659	..STSSSSSSSFD										
10.00	44,016	14,434	34,925	93,375	93,375	..STSSSSSSSFD										
10.15	40,191	15,845	39,021	95,057	95,057	..STSSSSSSSFD										
10.30	39,926	19,428	41,267	100,621	100,621	..SSSTSSSSSFD										
10.45	41,291	24,135	45,713	111,139	111,139	..SSSTSSSSSFD										
11.00	41,848	29,271	53,418	124,537	124,537	..SSSTSSSSSFD										
11.15	39,640	37,448	63,231	140,319	140,319	..SSSTSSSSSFD										
11.30	35,967	43,095	69,141	148,203	148,203	..SSSTSSSSSFD										
11.45	31,040	46,558	72,011	149,609	149,609	..SSSTSSSSSFD										
12.00	27,614	45,542	72,930	146,086	146,086	..SSSTSSSSSFD										
12.15	27,550	39,028	69,720	136,298	136,298	..SSSTSSSSSFD										
12.30	30,083	34,013	69,250	133,346	133,346	..SSSTSSSSSFD										
12.45	31,689	35,834	70,430	137,953	137,953	..SSSTSSSSSFD										
13.00	32,546	41,929	69,168	143,643	143,643	..SSSTSSSSSFD										
13.15	30,751	49,651	67,143	147,545	147,545	..SSSTSSSSSFD										
13.30	30,235	60,826	66,570	157,631	157,631	..SSSTSSSSSFD										
13.45	33,215	80,242	67,202	180,659	180,659	..SSSTSSSSSFD										
14.00	34,847	107,898	73,063	215,808	215,808	..SSSTSSSSSFD										
14.15	35,936	147,075	85,622	268,633	268,633	..SSSTSSSSSFD										
14.30	37,694	176,353	89,449	303,496	303,496	..SSSTSSSSSFD										
14.45	37,913	182,370	86,140	306,423	306,423	..SSSTSSSSSFD										
15.00	35,925	164,152	79,206	279,283	279,283	..SSSTSSSSSFD										
15.15	36,518	142,160	66,170	244,848	244,848	..SSSTSSSSSFD										
15.30	39,573	130,405	55,226	225,204	225,204	..SSSTSSSSSFD										
15.45	42,226	120,360	54,211	216,797	216,797	..SSSTSSSSSFD										
16.00	45,808	118,283	57,769	221,860	221,860	..SSSTSSSSSFD										
16.15	50,710	130,835	62,364	243,909	243,909	..SSSTSSSSSFD										
16.30	49,841	144,604	66,540	260,985	260,985	..SSSTSSSSSFD										
16.45	49,613	148,928	63,881	262,422	262,422	..SSSTSSSSSFD										
17.00	56,217	145,758	56,455	258,430	258,430	..SSSTSSSSSFD										
17.15	63,820	141,499	48,519	253,838	253,838	..SSSTSSSSSFD										
17.30	67,706	135,955	46,201	249,862	249,862	..SSSTSSSSSFD										
17.45	67,431	125,303	45,508	238,242	238,242	..SSSTSSSSSFD										
18.00	67,217	109,885	42,789	219,891	219,891	..SSSTSSSSSFD										
18.15	73,800	91,503	41,744	207,047	207,047	..SSSTSSSSSFD										
18.30	82,431	82,798	42,433	207,662	207,662	..SSSTSSSSSFD										
18.45	80,996	80,319	40,746	202,061	202,061	..SSSTSSSSSFD										
19.00	70,255	74,869	37,088	182,212	182,212	..SSSTSSSSSFD										
19.15	56,580	68,957	34,724	160,261	160,261	..SSSTSSSSSFD										
19.30	46,001	71,539	35,096	152,636	152,636	..SSSTSSSSSFD										
19.45	33,422	77,264	31,480	142,166	142,166	..SSSTSSSSSFD										
20.00	24,322	78,376	27,639	130,337	130,337	..SSSTSSSSSFD										
20.15	19,138	79,164	24,736	123,038	123,038	..SSSTSSSSSFD										
20.30	14,391	79,337	19,672	113,400	113,400	..SSSTSSSSSFD										
20.45	10,438	71,611	14,836	96,885	96,885	..SSSTSSSSSFD										
21.00	8,115	64,000	12,252	84,367	84,367	..SSSTSSSSSFD										
21.15	6,937	60,259	10,565	77,761	77,761	..SSSTSSSSSFD										
21.30	5,978	55,281	8,712	69,971	69,971	..SSSTSSSSSFD										
21.45	4,321	48,846	8,409	61,576	61,576	..SSSTSSSSSFD										
22.00	2,908	42,857	8,631	54,396	54,396	..SSSTSSSSSFD										
22.15	1,762	35,375	7,628	44,765	44,765	..SSSTSSSSSFD										
22.30	1,705	31,884	7,041	40,630	40,630	..SSSTSSSSSFD										
22.45	2,282	28,744	6,343	37,369	37,369	..SSSTSSSSSFD										
23.00	2,174	24,642	4,468	31,284	31,284	..SSSTSSSSSFD										
23.15	1,601	19,871	2,442	23,914	23,914	..SSSTSSSSSFD										
23.30	1,187	16,346	1,343	18,876	18,876	..SSSTSSSSSFD										
23.45	778	10,664	963	12,405	12,405	..SSSTSSSSSFD										

1,072,623 680,411 2,800,565 TOTAL TRIPS (10,962 RECORDS)  
1,047,531 2,800,565



TABLE 2.3.18A  
TRIPS-IN-MOTION ANALYSIS - 1990 WEEKDAY WALK TRIPS

TRIPS WITHIN		60 MIN.		FROM BEGIN TIME		FOR (01) SET ALL PURPOSES WALK MODE		-- DAILY IS ALL PURPOSES WALK MODE					
BEGIN HH:MM	FROM HOME	TO HOME	NON- HOME	SET TOTAL	DAILY TOTAL	PCT/SET=	1.49	2.99	4.48	5.97	7.47	8.96	10.45
						0	25000	50000	75000	100000	125000	150000	175000
													200000
0.00	0	305	343	648	648	.	.	.	.	.	.	.	.
0.15	0	497	252	749	749	.	.	.	.	.	.	.	.
0.30	0	690	168	858	858	.	.	.	.	.	.	.	.
0.45	0	538	660	1,198	1,198	.	.	.	.	.	.	.	.
1.00	0	385	1,277	1,662	1,662	.D	.	.	.	.	.	.	.
1.15	0	385	1,400	1,785	1,785	.D	.	.	.	.	.	.	.
1.30	140	495	908	1,543	1,543	.D	.	.	.	.	.	.	.
1.45	281	554	207	1,042	1,042	.	.	.	.	.	.	.	.
2.00	281	502	0	783	783	.	.	.	.	.	.	.	.
2.15	532	502	0	1,034	1,034	.	.	.	.	.	.	.	.
2.30	643	392	0	1,035	1,035	.	.	.	.	.	.	.	.
2.45	502	141	0	643	643	.	.	.	.	.	.	.	.
3.00	251	0	0	251	251	.	.	.	.	.	.	.	.
3.15	0	0	0	0	0	.	.	.	.	.	.	.	.
3.30	0	0	120	120	120	.	.	.	.	.	.	.	.
3.45	0	0	241	241	241	.	.	.	.	.	.	.	.
4.00	0	0	241	241	241	.	.	.	.	.	.	.	.
4.15	500	0	241	741	741	.	.	.	.	.	.	.	.
4.30	1,224	0	121	1,345	1,345	.D	.	.	.	.	.	.	.
4.45	2,001	430	168	2,599	2,599	.D	.	.	.	.	.	.	.
5.00	3,466	860	337	4,663	4,663	.FD	.	.	.	.	.	.	.
5.15	5,835	1,143	337	7,315	7,315	.SFD	.	.	.	.	.	.	.
5.30	7,838	1,476	495	9,809	9,809	.TSFD	.	.	.	.	.	.	.
5.45	10,866	1,804	969	13,639	13,639	.TSFSD	.	.	.	.	.	.	.
6.00	15,559	2,280	1,942	19,781	19,781	.NS\$SFSD	.	.	.	.	.	.	.
6.15	24,568	3,120	3,642	31,330	31,330	.NS\$SFSD	.	.	.	.	.	.	.
6.30	34,086	3,955	5,538	43,579	43,579	.NS\$SFSD	.	.	.	.	.	.	.
6.45	51,598	4,950	7,100	63,648	63,648	.STNS\$SFSD	.	.	.	.	.	.	.
7.00	83,096	5,680	9,730	98,506	98,506	.STNS\$SFSD	.	.	.	.	.	.	.
7.15	127,298	7,365	13,616	148,279	148,279	.STNS\$SFSD	.	.	.	.	.	.	.
7.30	157,857	11,356	17,197	186,410	186,410	.STNS\$SFSD	.	.	.	.	.	.	.
7.45	159,925	15,679	20,176	195,780	195,780	.STNS\$SFSD	.	.	.	.	.	.	.
8.00	131,801	17,049	23,955	172,805	172,805	.STNS\$SFSD	.	.	.	.	.	.	.
8.15	87,106	16,352	26,717	130,175	130,175	.STNS\$SFSD	.	.	.	.	.	.	.
8.30	56,512	14,756	26,291	97,559	97,559	.STNS\$SFSD	.	.	.	.	.	.	.
8.45	43,892	13,691	23,238	80,821	80,821	.STNS\$SFSD	.	.	.	.	.	.	.
9.00	39,257	14,468	20,735	74,460	74,460	.STNS\$SFSD	.	.	.	.	.	.	.
9.15	37,563	15,703	23,170	76,436	76,436	.STNS\$SFSD	.	.	.	.	.	.	.
9.30	36,583	17,282	25,190	79,055	79,055	.STNS\$SFSD	.	.	.	.	.	.	.
9.45	32,477	18,703	25,249	76,429	76,429	.STNS\$SFSD	.	.	.	.	.	.	.
10.00	27,277	17,837	23,883	68,997	68,997	.STNS\$SFSD	.	.	.	.	.	.	.
10.15	25,133	17,955	26,851	69,939	69,939	.STNS\$SFSD	.	.	.	.	.	.	.
10.30	27,240	18,984	32,866	78,510	78,510	.STNS\$SFSD	.	.	.	.	.	.	.
10.45	26,720	21,349	44,411	92,480	92,480	.STNS\$SFSD	.	.	.	.	.	.	.
11.00	25,418	24,163	58,522	108,103	108,103	.STNS\$SFSD	.	.	.	.	.	.	.
11.15	22,645	28,796	84,841	136,282	136,282	.STNS\$SFSD	.	.	.	.	.	.	.
11.30	19,355	32,127	115,113	166,595	166,595	.STNS\$SFSD	.	.	.	.	.	.	.
11.45	16,949	30,240	129,611	176,800	176,800	.STNS\$SFSD	.	.	.	.	.	.	.
12.00	15,392	28,608	130,318	174,318	174,318	.STNS\$SFSD	.	.	.	.	.	.	.
12.15	16,334	27,982	126,314	170,630	170,630	.STNS\$SFSD	.	.	.	.	.	.	.
12.30	17,364	27,443	120,746	165,553	165,553	.STNS\$SFSD	.	.	.	.	.	.	.
12.45	16,327	27,697	110,136	154,160	154,160	.STNS\$SFSD	.	.	.	.	.	.	.
13.00	15,685	27,434	93,632	136,751	136,751	.STNS\$SFSD	.	.	.	.	.	.	.
13.15	15,112	29,325	76,937	121,374	121,374	.STNS\$SFSD	.	.	.	.	.	.	.
13.30	15,982	35,961	69,529	121,472	121,472	.STNS\$SFSD	.	.	.	.	.	.	.
13.45	17,011	56,940	66,489	140,440	140,440	.STNS\$SFSD	.	.	.	.	.	.	.
14.00	17,133	84,626	63,941	165,700	165,700	.STNS\$SFSD	.	.	.	.	.	.	.
14.15	20,142	115,314	58,093	193,549	193,549	.STNS\$SFSD	.	.	.	.	.	.	.
14.30	23,647	134,369	51,645	209,661	209,661	.STNS\$SFSD	.	.	.	.	.	.	.
14.45	25,660	128,161	44,739	198,560	198,560	.STNS\$SFSD	.	.	.	.	.	.	.
15.00	24,633	102,911	39,062	166,606	166,606	.STNS\$SFSD	.	.	.	.	.	.	.
15.15	23,674	73,224	34,128	131,026	131,026	.STNS\$SFSD	.	.	.	.	.	.	.
15.30	22,318	53,807	31,842	107,967	107,967	.STNS\$SFSD	.	.	.	.	.	.	.
15.45	19,714	42,022	30,489	92,225	92,225	.STNS\$SFSD	.	.	.	.	.	.	.
16.00	18,502	39,151	30,414	88,067	88,067	.STNS\$SFSD	.	.	.	.	.	.	.
16.15	19,311	44,220	31,812	95,343	95,343	.STNS\$SFSD	.	.	.	.	.	.	.
16.30	22,400	48,065	32,491	102,956	102,956	.STNS\$SFSD	.	.	.	.	.	.	.
16.45	21,836	44,329	31,818	97,983	97,983	.STNS\$SFSD	.	.	.	.	.	.	.
17.00	20,025	38,654	29,371	88,050	88,050	.STNS\$SFSD	.	.	.	.	.	.	.
17.15	20,152	36,215	27,283	83,650	83,650	.STNS\$SFSD	.	.	.	.	.	.	.
17.30	19,941	36,219	25,073	81,233	81,233	.STNS\$SFSD	.	.	.	.	.	.	.
17.45	20,416	33,530	21,295	75,241	75,241	.STNS\$SFSD	.	.	.	.	.	.	.
18.00	20,432	31,734	16,878	69,044	69,044	.STNS\$SFSD	.	.	.	.	.	.	.
18.15	19,628	31,234	12,695	63,557	63,557	.STNS\$SFSD	.	.	.	.	.	.	.
18.30	20,393	32,398	11,599	64,390	64,390	.STNS\$SFSD	.	.	.	.	.	.	.
18.45	20,187	32,654	10,320	63,161	63,161	.STNS\$SFSD	.	.	.	.	.	.	.
19.00	19,883	29,860	10,246	59,989	59,989	.STNS\$SFSD	.	.	.	.	.	.	.
19.15	19,274	27,983	10,224	57,481	57,481	.STNS\$SFSD	.	.	.	.	.	.	.
19.30	16,471	27,561	9,350	53,382	53,382	.STNS\$SFSD	.	.	.	.	.	.	.
19.45	12,483	25,045	7,145	44,673	44,673	.STNS\$SFSD	.	.	.	.	.	.	.
20.00	9,185	20,523	5,225	34,933	34,933	.STNS\$SFSD	.	.	.	.	.	.	.
20.15	6,059	15,534	3,965	25,558	25,558	.STNS\$SFSD	.	.	.	.	.	.	.
20.30	3,934	13,157	3,483	20,574	20,574	.STNS\$SFSD	.	.	.	.	.	.	.
20.45	2,309	12,343	3,616	18,268	18,268	.STNS\$SFSD	.	.	.	.	.	.	.
21.00	2,468	10,848	3,982	17,298	17,298	.STNS\$SFSD	.	.	.	.	.	.	.
21.15	2,819	9,758	3,970	16,547	16,547	.STNS\$SFSD	.	.	.	.	.	.	.
21.30	2,426	10,328	3,824	16,578	16,578	.STNS\$SFSD	.	.	.	.	.	.	.
21.45	1,337	10,586	3,724	15,647	15,647	.STNS\$SFSD	.	.	.	.	.	.	.
22.00	654	9,593	3,527	13,774	13,774	.STNS\$SFSD	.	.	.	.	.	.	.
22.15	328	7,339	3,105	10,772	10,772	.STNS\$SFSD	.	.	.	.	.	.	.
22.30	133	5,782	2,104	8,019	8,019	.STNS\$SFSD	.	.	.	.	.	.	.
22.45	266	4,703	1,836	6,805	6,805	.STNS\$SFSD	.	.	.	.	.	.	.
23.00	266	3,843	1,736	5,845	5,845	.STNS\$SFSD	.	.	.	.	.	.	.
23.15	266	2,589	1,380	4,235	4,235	.STNS\$SFSD	.	.	.	.	.	.	.
23.30	133	1,693	1,023	2,849	2,849	.STNS\$SFSD	.	.	.	.	.	.	.
23.45	0	783	542	1,325	1,325	.D	.	.	.	.	.	.	.
516,964		631,344		1,674,142		TOTAL TRIPS (6,494 RECORDS)							
525,834		1,674,142											

TABLE 2.3.19A  
TRIPS-IN-MOTION ANALYSIS - 1990 WEEKDAY BICYCLE TRIPS

BEGIN HH.MM	TRIPS WITHIN		60 MIN. FROM HOME	NON- HOME	SET TOTAL	BEGIN DAILY TOTAL	TIME FOR (01) SET ALL PURPOSES BICYCLE MODE				DAILY IS ALL PURPOSES BICYCLE MODE				
	FROM HOME	TO HOME					PCT/SET=	1.78	3.56	5.34	7.13	8.91	10.69	12.47	14.25
							0	4500	9000	13500	18000	22500	27000	31500	36000
0.00	0	219	0	219	219										
0.15	0	110	0	110	110										
0.30	0	0	0	0	0										
0.45	0	0	0	0	0										
1.00	0	0	0	0	0										
1.15	0	0	0	0	0										
1.30	0	0	0	0	0										
1.45	0	0	0	0	0										
2.00	0	0	0	0	0										
2.15	0	0	0	0	0										
2.30	0	84	0	84	84										
2.45	0	168	0	168	168										
3.00	0	168	0	168	168										
3.15	0	168	0	168	168										
3.30	0	84	0	84	84										
3.45	0	0	0	0	0										
4.00	0	0	0	0	0										
4.15	0	0	0	0	0										
4.30	320	0	0	320	320	.D									
4.45	865	0	0	865	865	.SD									
5.00	1,171	0	0	1,171	1,171	.SD									
5.15	1,355	213	0	1,568	1,568	.SD									
5.30	1,710	426	0	2,136	2,136	.TSSFD									
5.45	2,659	528	0	3,187	3,187	.TSSSFD									
6.00	3,882	499	104	4,485	4,485	.TSSSSSFD									
6.15	6,320	368	313	7,001	7,001	.NSSSSSSSSSFD									
6.30	8,502	353	636	9,491	9,491	.NSSSSSSSSSSSFD									
6.45	13,324	257	1,063	14,644	14,644	.TNSSSSSSSSSSSSSFD									
7.00	20,567	175	1,168	21,910	21,910	.SSSSSSSSSSSSSFD									
7.15	28,410	709	1,611	30,730	30,730	.STSSSSSSSSSSSSSFD									
7.30	35,207	1,414	2,316	38,937	38,937	.SSSTSSSSSSSSSSSF									
7.45	35,192	1,726	2,515	39,433	39,433	.SSSTSSSSSSSSSSSF									
8.00	28,668	1,614	2,559	32,841	32,841	.SSSTSSSSSSSSSSSF									
8.15	20,892	1,476	1,779	24,147	24,147	.SSSTSSSSSSSSSSSF									
8.30	14,034	1,251	1,027	16,312	16,312	.SNTSSSSSSSSSSSSSF									
8.45	9,985	1,401	972	12,358	12,358	.SNTSSSSSSSSSSSF									
9.00	8,246	1,899	882	11,027	11,027	.SNTSSSSSSSSSSSF									
9.15	7,567	1,923	1,164	10,654	10,654	.SNTSSSSSSSSSSSF									
9.30	7,672	1,813	1,296	10,781	10,781	.SNTSSSSSSSSSSSF									
9.45	5,580	1,303	1,352	8,235	8,235	.SSSSSSSSSF									
10.00	4,229	805	1,757	6,791	6,791	.STSSSSSF									
10.15	4,118	946	2,363	7,427	7,427	.STSSSSSF									
10.30	4,101	1,286	2,768	8,155	8,155	.STSSSSSF									
10.45	4,579	1,361	2,658	8,598	8,598	.STSSSSSF									
11.00	4,968	1,549	2,397	8,914	8,914	.STSSSSSF									
11.15	5,444	2,542	2,899	10,885	10,885	.SSSSSSSF									
11.30	6,127	3,481	3,210	12,818	12,818	.SSSSSNTSSSSSF									
11.45	5,851	4,161	3,449	13,461	13,461	.SSSSSNTSSSSSF									
12.00	4,495	4,590	3,549	12,634	12,634	.SSSSSNTSSSSSF									
12.15	2,603	5,743	3,664	12,010	12,010	.SSSSSFNTSSSSSF									
12.30	1,753	6,443	3,152	11,348	11,348	.SSSFSSNTSSSSSF									
12.45	2,002	6,215	2,473	10,690	10,690	.SSSFSSNTSSSSSF									
13.00	2,556	4,717	2,597	9,870	9,870	.SSSSSNTSSSSSF									
13.15	3,016	3,916	2,384	9,316	9,316	.SSSSSFNTSSSSSF									
13.30	2,898	6,004	2,143	11,045	11,045	.SSSSNFSSNTSSSSSF									
13.45	2,696	9,986	2,964	15,646	15,646	.SSSSSFSSNTSSSSSF									
14.00	2,119	14,528	4,070	20,717	20,717	.SSSSSFSSNTSSSSSF									
14.15	2,373	18,925	6,197	27,495	27,495	.SSSSSFSSNTSSSSSF									
14.30	3,260	21,521	7,980	32,761	32,761	.SSSSSFSSNTSSSSSF									
14.45	5,279	20,117	8,320	33,716	33,716	.SSSSSSSSSFSSNTSSSSSF									
15.00	6,839	15,754	8,808	31,401	31,401	.SSSSSSSSSFSSNTSSSSSF									
15.15	7,302	12,326	7,666	27,394	27,394	.SSSSSSSSSFSSNTSSSSSF									
15.30	7,382	9,975	6,698	24,055	24,055	.SSSSSSSSSFSSNFSSNTSSSSSF									
15.45	7,366	8,336	5,948	21,650	21,650	.SSSSSSSSSFSSNFSSNTSSSSSF									
16.00	7,277	8,167	4,818	20,262	20,262	.SSSSSSSSSFSSNFSSNTSSSSSF									
16.15	6,935	11,806	4,151	22,892	22,892	.SSSSSSSSSFSSNFSSNTSSSSSF									
16.30	6,876	16,438	3,790	27,104	27,104	.SSSSSSSSSFSSNFSSNTSSSSSF									
16.45	6,894	17,919	2,768	27,581	27,581	.SSSSSSSSSFSSNFSSNTSSSSSF									
17.00	7,131	17,055	2,208	26,394	26,394	.SSSSSSSSSFSSNFSSNTSSSSSF									
17.15	6,434	14,944	2,756	24,134	24,134	.SSSSSSSSSFSSNFSSNTSSSSSF									
17.30	5,220	13,566	3,199	21,985	21,985	.SSSSSSSSSFSSNFSSNTSSSSSF									
17.45	3,688	11,992	3,326	19,006	19,006	.SSSSSSNFSSSSSSSSSSNTSSSSSF									
18.00	2,756	10,652	3,212	16,620	16,620	.SSSSSFSSSSSSSSSSNTSSSSSF									
18.15	2,773	8,901	2,409	14,083	14,083	.SSSSNFSSSSSSSSSSNTSSSSSF									
18.30	3,181	7,414	2,160	12,755	12,755	.SSSSNFSSSSSSSSSTSSSSSSSF									
18.45	3,679	6,429	1,921	12,029	12,029	.SSSSSFSSSSSSSTSSSSSSSF									
19.00	3,985	5,818	1,515	11,318	11,318	.SSSSSFSSSSSTSSSSSSSF									
19.15	4,068	5,138	1,454	10,660	10,660	.SSSSSFSSSTSSSSSSSF									
19.30	3,839	4,521	1,067	9,427	9,427	.SSSSSFSSSTSSSSSSSF									
19.45	2,838	3,819	754	7,411	7,411	.SSSSSFSSSTSSSSSSSF									
20.00	1,857	2,947	591	5,395	5,395	.SSSFSSSTSSSSD									
20.15	1,487	2,222	252	3,961	3,961	.NFSSTSSSD									
20.30	1,241	1,877	111	3,229	3,229	.SFTSSD									
20.45	982	2,339	222	3,543	3,543	.FSSTSSD									
21.00	768	2,627	547	3,942	3,942	.NFSSTSSD									
21.15	332	2,609	872	3,813	3,813	.FNSSTSSD									
21.30	111	2,603	872	3,586	3,586	.SNSSTSSD									
21.45	87	2,245	761	3,093	3,093	.SNSSTSD									
22.00	175	2,013	325	2,513	2,513	.NSSTSD									
22.15	175	1,620	0	1,795	1,795	.SSSD									
22.30	88	881	0	969	969	.SD									
22.45	0	260	0	260	260	.D									
23.00	0	308	0	308	308	.D									
23.15	0	426	0	426	426	.D									
23.30	0	535	0	535	535	.D									



**TABLE 2.3.20A**  
**TRIPS-IN-MOTION ANALYSIS - 1990 WEEKDAY HOME-BASED WORK TRIPS**

BEGIN HH:MM	TRIPS FROM HOME	WITHIN TO HOME	60 MIN. NON- HOME	FROM BEGIN TIME SET TOTAL	FOR (01) SET DAILY TOTAL	HOME-BASED WORK PCT/SET=23.95 TOTAL 0	TRANSIT 47.90 210000	PSGR -- 71.85 315000	DAILY IS 95.80 420000	HOME-BASED WORK 119.75 525000	WORK TOTAL 143.70 630000	167.65 735000	191.60 840000
0.00	0	1,172	0	1,172	18,598	.=D	.	.	.	.	.	.	.
0.15	0	1,046	0	1,046	17,020	.=D	.	.	.	.	.	.	.
0.30	0	727	0	727	15,163	.D	.	.	.	.	.	.	.
0.45	0	368	0	368	12,155	.D	.	.	.	.	.	.	.
1.00	0	223	0	223	9,145	.D	.	.	.	.	.	.	.
1.15	0	400	0	400	7,804	.D	.	.	.	.	.	.	.
1.30	0	559	0	559	7,850	.D	.	.	.	.	.	.	.
1.45	0	559	0	559	8,448	.D	.	.	.	.	.	.	.
2.00	0	438	0	438	8,804	.D	.	.	.	.	.	.	.
2.15	104	317	0	421	10,243	.D	.	.	.	.	.	.	.
2.30	209	159	0	368	12,464	.D	.	.	.	.	.	.	.
2.45	209	286	0	495	13,262	.D	.	.	.	.	.	.	.
3.00	209	573	0	782	12,524	.D	.	.	.	.	.	.	.
3.15	408	573	0	981	12,467	.D	.	.	.	.	.	.	.
3.30	970	573	0	1,543	14,460	.D	.	.	.	.	.	.	.
3.45	2,477	287	0	2,764	21,557	.=D	.	.	.	.	.	.	.
4.00	3,920	0	0	3,920	29,345	.==D	.	.	.	.	.	.	.
4.15	5,652	0	0	5,652	43,214	.S==D	.	.	.	.	.	.	.
4.30	8,274	0	0	8,274	63,170	.S===D	.	.	.	.	.	.	.
4.45	11,979	0	0	11,979	97,211	.S=====D.	.	.	.	.	.	.	.
5.00	17,169	0	0	17,169	139,683	.SS=====D	.	.	.	.	.	.	.
5.15	26,341	0	0	26,341	200,593	.SSS=====D.	.	.	.	.	.	.	.
5.30	37,430	0	0	37,430	272,286	.SSSS=====D	.	.	.	.	.	.	.
5.45	49,614	0	0	49,614	356,968	.SSSSS=====D	.	.	.	.	.	.	.
6.00	62,413	0	0	62,413	446,247	.SSSSSS=====D	.	.	.	.	.	.	.
6.15	78,437	153	0	78,590	560,538	.SSSSSSS=====D	.	.	.	.	.	.	.
6.30	93,529	307	0	93,836	662,943	.SSSSSSSS=====D	.	.	.	.	.	.	.
6.45	109,879	532	0	110,411	748,969	.SSSSSSSSS=====D	.	.	.	.	.	.	.
7.00	122,062	758	0	122,820	818,682	.SSSSSSSSSS=====D	.	.	.	.	.	.	.
7.15	123,876	758	0	124,634	872,585	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
7.30	120,928	837	0	121,765	881,325	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
7.45	111,398	917	0	112,315	805,717	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.00	91,256	823	0	92,079	680,513	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.15	70,097	728	0	70,825	552,986	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.30	56,180	575	0	56,755	445,457	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.45	41,799	421	0	42,220	334,631	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.00	28,878	211	0	29,089	243,287	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.15	21,213	0	0	21,213	182,300	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.30	17,319	0	0	17,319	155,357	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.45	12,886	0	0	12,886	129,515	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.00	9,158	0	0	9,158	105,203	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.15	6,784	180	0	6,964	85,999	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.30	6,115	581	0	6,696	79,715	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.45	5,500	960	0	6,460	76,274	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.00	4,518	1,117	0	5,635	74,991	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.15	4,126	1,900	0	6,026	86,568	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.30	4,713	2,867	0	7,580	99,444	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.45	4,205	3,613	0	7,818	102,153	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.00	3,818	4,340	0	8,158	102,315	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.15	3,926	4,785	0	8,711	108,174	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.30	3,724	5,122	0	8,846	112,331	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.45	3,863	5,644	0	9,507	110,317	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.00	3,858	5,829	0	9,687	104,547	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.15	3,924	6,584	0	10,508	104,439	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.30	4,189	7,652	0	11,841	111,630	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.45	3,996	9,124	0	13,120	126,285	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.00	3,720	10,294	0	14,014	141,720	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.15	4,299	12,500	0	16,799	170,674	.TS=====D	.	.	.	.	.	.	.
14.30	5,255	15,725	0	20,980	205,889	.TS=====D	.	.	.	.	.	.	.
14.45	5,201	19,359	0	24,560	251,515	.SS=====D	.	.	.	.	.	.	.
15.00	4,467	21,765	0	26,232	283,357	.SS=====D	.	.	.	.	.	.	.
15.15	3,820	28,484	0	32,304	326,191	.SSS=====D	.	.	.	.	.	.	.
15.30	2,922	37,170	0	40,092	372,269	.SSSS=====D	.	.	.	.	.	.	.
15.45	1,948	47,043	0	48,991	425,367	.SSSSTS=====D	.	.	.	.	.	.	.
16.00	1,518	56,942	0	58,460	473,509	.SSSSTS=====D	.	.	.	.	.	.	.
16.15	1,323	77,629	0	78,952	581,428	.SSSSSTS=====D	.	.	.	.	.	.	.
16.30	1,400	96,796	0	98,196	686,871	.SSSSSSSS=====D	.	.	.	.	.	.	.
16.45	1,890	103,031	0	104,921	712,715	.SSSSSSSSS=====D	.	.	.	.	.	.	.
17.00	2,157	106,097	0	108,254	705,633	.SSSSSSSSSS=====D	.	.	.	.	.	.	.
17.15	1,857	102,750	0	104,607	658,513	.SSSSSSSSSS=====D	.	.	.	.	.	.	.
17.30	1,703	96,213	0	97,916	597,193	.SSSSSSSSSS=====D	.	.	.	.	.	.	.
17.45	971	83,283	0	84,254	508,114	.SSSSSSSS=====D	.	.	.	.	.	.	.
18.00	449	66,811	0	67,260	419,152	.SSSSSS=====D	.	.	.	.	.	.	.
18.15	662	51,398	0	52,060	334,061	.SSSSS=====D	.	.	.	.	.	.	.
18.30	644	40,283	0	40,927	273,474	.SSSS=====D	.	.	.	.	.	.	.
18.45	1,133	29,548	0	30,681	221,235	.SSS=====D	.	.	.	.	.	.	.
19.00	1,432	21,474	0	22,906	173,516	.SS=====D	.	.	.	.	.	.	.
19.15	1,359	16,673	0	18,032	137,347	.SS=====D	.	.	.	.	.	.	.
19.30	1,500	13,155	0	14,655	119,655	.S=====D	.	.	.	.	.	.	.
19.45	1,384	10,064	0	11,448	100,534	.S=====D	.	.	.	.	.	.	.
20.00	1,267	7,662	0	8,929	85,586	.S=====D	.	.	.	.	.	.	.
20.15	1,267	6,505	0	7,772	78,155	.S=====D	.	.	.	.	.	.	.
20.30	1,127	5,473	0	6,600	74,738	.S=====D	.	.	.	.	.	.	.
20.45	773	4,455	0	5,228	69,332	.=====D	.	.	.	.	.	.	.
21.00	666	4,891	0	5,557	68,256	.S=====D	.	.	.	.	.	.	.
21.15	1,454	5,020	0	6,474	68,036	.S=====D	.	.	.	.	.	.	.
21.30	2,136	4,571	0	6,707	65,838	.S=====D	.	.	.	.	.	.	.
21.45	2,136	3,809	0	5,945	60,355	.S=====D	.	.	.	.	.	.	.
22.00	2,010	2,779	0	4,789	55,661	.=====D	.	.	.	.	.	.	.
22.15	1,884	2,265	0	4,149	55,420	.=====D	.	.	.	.	.	.	.
22.30	1,731	2,155	0	3,886	56,387	.=====D	.	.	.	.	.	.	.
22.45	1,470	2,677	0	4,147	55,220	.=====D	.	.	.	.	.	.	.
23.00	682	3,381	0	4,063	52,164	.=====D	.	.	.	.	.	.	.
23.15	0	3,618	0	3,618	45,317	.==D	.	.	.	.	.	.	.
23.30	0	3,161	0	3,161	38,963	.==D	.	.	.	.	.	.	.
23.45	0	1,887	0	1,887	26,996	.==D	.	.	.	.	.	.	.
237,277				0	4,443,844	TOTAL TRIPS (1,627 RECORDS)							
201,137				438,414									



TABLE 2.3.21A  
TRIPS-IN-MOTION ANALYSIS - 1990 HOME-BASED SHOP (OTHER) TRIPS

TRIPS WITHIN 60 MIN. FROM BEGIN TIME FOR (01) SET HOME-BASED SHOP TRANSIT PSGR -- DAILY IS HOME-BASED SHOP TOTAL																
BEGIN HH.MM	FROM HOME	TO HOME	NON- HOME	SET TOTAL	DAILY TOTAL	PCT/SET=28.16 46800	56.32 93600	84.49 140400	112.65 187200	140.81 234000	168.97 280800	197.13 327600	225.30 374400			
0.00	534	0	0	534	9,564	.D										
0.15	534	0	0	534	7,415	.D										
0.30	267	0	0	267	4,841	.D										
0.45	0	0	0	0	3,479	.D										
1.00	0	0	0	0	3,084	.D										
1.15	0	0	0	0	2,644	.D										
1.30	0	0	0	0	2,565	.D										
1.45	0	0	0	0	2,211	.										
2.00	0	0	0	0	2,029	.										
2.15	0	0	0	0	2,227	.										
2.30	0	0	0	0	2,373	.D										
2.45	0	0	0	0	1,952	.										
3.00	0	0	0	0	1,428	.										
3.15	0	0	0	0	1,233	.										
3.30	0	0	0	0	1,168	.										
3.45	106	0	0	106	1,300	.										
4.00	213	0	0	213	2,182	.										
4.15	213	0	0	213	3,683	.D										
4.30	318	0	0	318	6,428	.D										
4.45	489	0	0	489	13,337	.D										
5.00	774	0	0	774	20,083	.D										
5.15	1,848	0	0	1,848	27,793	.D										
5.30	2,877	0	0	2,877	34,816	.D										
5.45	3,167	0	0	3,167	41,116	.D										
6.00	3,591	0	0	3,591	48,194	.D										
6.15	4,584	0	0	4,584	60,944	.D										
6.30	5,376	0	0	5,376	77,862	.D										
6.45	7,048	91	0	7,139	107,276	.D										
7.00	9,267	307	0	9,574	148,163	.D										
7.15	11,670	560	0	12,230	206,218	.D										
7.30	13,360	688	0	14,048	262,162	.D										
7.45	13,238	688	0	13,926	296,656	.D										
8.00	14,041	345	0	14,386	294,313	.D										
8.15	16,732	0	0	16,732	272,912	.D										
8.30	17,191	237	0	17,428	251,919	.D										
8.45	14,803	612	0	15,415	240,664	.D										
9.00	13,784	878	0	14,662	238,758	.D										
9.15	14,856	1,371	0	16,227	254,540	.D										
9.30	16,572	1,795	0	18,367	271,404	.D										
9.45	17,076	2,418	0	19,494	275,384	.D										
10.00	15,521	2,821	0	18,342	265,244	.D										
10.15	15,366	2,923	0	18,289	261,148	.D										
10.30	16,669	3,459	0	20,128	269,806	.D										
10.45	15,973	5,354	0	21,327	275,637	.D										
11.00	14,029	6,913	0	20,942	280,183	.D										
11.15	14,189	8,626	0	22,815	283,142	.D										
11.30	13,821	10,270	0	24,091	291,433	.D										
11.45	11,194	11,022	0	22,216	286,637	.D										
12.00	8,677	10,841	0	19,518	266,474	.D										
12.15	7,109	11,230	0	18,339	255,066	.D										
12.30	7,803	11,829	0	19,632	250,255	.D										
12.45	8,208	12,759	0	20,967	247,112	.D										
13.00	7,593	13,998	0	21,591	251,220	.D										
13.15	8,267	13,825	0	22,092	257,097	.D										
13.30	8,447	14,805	0	23,252	276,736	.D										
13.45	7,858	15,424	0	23,282	303,719	.D										
14.00	7,725	13,957	0	21,682	327,351	.D										
14.15	6,524	15,283	0	21,807	356,657	.D										
14.30	5,457	17,811	0	23,268	383,809	.D										
14.45	5,185	17,190	0	22,375	392,953	.D										
15.00	3,939	15,422	0	19,361	376,380	.D										
15.15	2,762	14,193	0	16,955	357,330	.D										
15.30	3,305	14,033	0	17,338	353,889	.D										
15.45	3,773	13,242	0	17,015	356,214	.D										
16.00	3,837	12,082	0	15,919	362,574	.D										
16.15	4,220	11,740	0	15,960	371,512	.D										
16.30	3,809	12,479	0	16,288	378,858	.D										
16.45	3,052	13,179	0	16,231	377,080	.D										
17.00	2,710	12,531	0	15,241	370,277	.D										
17.15	2,590	12,167	0	14,757	371,856	.D										
17.30	2,637	11,816	0	14,453	364,175	.D										
17.45	2,878	10,746	0	13,624	343,402	.D										
18.00	3,280	9,853	0	13,133	318,938	.D										
18.15	3,233	8,731	0	11,964	296,095	.D										
18.30	3,061	7,894	0	10,955	292,342	.D										
18.45	2,985	7,086	0	10,071	286,220	.D										
19.00	3,088	5,841	0	8,929	263,129	.D										
19.15	2,400	4,921	0	7,321	235,624	.D										
19.30	1,711	4,986	0	6,697	215,895	.D										
19.45	1,611	3,874	0	5,485	187,992	.D										
20.00	992	2,595	0	3,587	164,043	.D										
20.15	236	2,749	0	2,985	146,517	.D										
20.30	0	3,216	0	3,216	131,599	.D										
20.45	229	3,033	0	3,262	121,641	.D										
21.00	458	2,090	0	2,548	112,506	.D										
21.15	458	1,438	0	1,896	96,483	.D										
21.30	458	1,888	0	2,346	85,019	.D										
21.45	458	2,606	0	3,064	73,766	.D										
22.00	229	2,872	0	3,101	59,633	.D										
22.15	0	2,739	0	2,739	48,183	.D										
22.30	0	2,370	0	2,370	43,782	.D										
22.45	0	1,645	0	1,645	40,040	.D										
23.00	0	1,355	0	1,355	34,344	.D										
23.15	0	1,555	0	1,555	26,555	.D										
23.30	267	1,131	0	1,398	21,770	.D										
23.45	534	354	0	888	14,691	.D										
83,398				0	4,224,070	TOTAL TRIPS (500 RECORDS)										
82,784				166,182												

TABLE 2.3.22A  
TRIPS-IN-MOTION ANALYSIS - 1990 HOME-BASED SOCIAL/RECREATION TRIPS

BEGIN HH:MM	TRIPS FROM HOME	WITHIN TO HOME	60 MIN. NON- HOME	FROM BEGIN TIME SET TOTAL	FOR (01) DAILY TOTAL	SET HOME-BASED PCT/SET=51.01 TOTAL 0	SOC/REC 102.02 58200	TRANSIT PSGR 153.03 87300	204.04 116400	DAILY IS HOME-BASED 255.04 145500	SOC/REC 306.05 174600	TOTAL 357.06 203700	408.07 232800
0.00	0	227	0	227	14,511	.=====D	.	.	.	.	.	.	.
0.15	0	227	0	227	14,676	.=====D	.	.	.	.	.	.	.
0.30	0	227	0	227	13,225	.=====D	.	.	.	.	.	.	.
0.45	0	227	0	227	10,746	.=====D	.	.	.	.	.	.	.
1.00	0	114	0	114	8,965	.=====D	.	.	.	.	.	.	.
1.15	0	0	0	0	7,833	.=====D	.	.	.	.	.	.	.
1.30	0	0	0	0	6,416	.=====D	.	.	.	.	.	.	.
1.45	0	0	0	0	5,891	.=====D	.	.	.	.	.	.	.
2.00	0	0	0	0	5,970	.=====D	.	.	.	.	.	.	.
2.15	0	0	0	0	4,542	.=====D	.	.	.	.	.	.	.
2.30	0	0	0	0	3,598	.=====D	.	.	.	.	.	.	.
2.45	0	0	0	0	2,919	.=====D	.	.	.	.	.	.	.
3.00	0	0	0	0	1,703	.=====D	.	.	.	.	.	.	.
3.15	0	0	0	0	635	.=====D	.	.	.	.	.	.	.
3.30	0	0	0	0	316	.=====D	.	.	.	.	.	.	.
3.45	0	0	0	0	448	.=====D	.	.	.	.	.	.	.
4.00	0	0	0	0	647	.=====D	.	.	.	.	.	.	.
4.15	0	0	0	0	1,473	.=====D	.	.	.	.	.	.	.
4.30	0	0	0	0	3,084	.=====D	.	.	.	.	.	.	.
4.45	0	0	0	0	5,909	.=====D	.	.	.	.	.	.	.
5.00	86	0	0	86	9,519	.=====D	.	.	.	.	.	.	.
5.15	172	0	0	172	15,283	.=====D	.	.	.	.	.	.	.
5.30	172	0	0	172	18,940	.=====D	.	.	.	.	.	.	.
5.45	481	0	0	481	22,453	.=====D	.	.	.	.	.	.	.
6.00	992	0	0	992	26,664	.=====D	.	.	.	.	.	.	.
6.15	2,241	0	0	2,241	30,416	.=====D	.	.	.	.	.	.	.
6.30	3,749	0	0	3,749	34,806	.=====D	.	.	.	.	.	.	.
6.45	4,990	0	0	4,990	41,498	.=====D	.	.	.	.	.	.	.
7.00	5,673	0	0	5,673	47,470	.=====D	.	.	.	.	.	.	.
7.15	5,438	0	0	5,438	58,424	.=====D	.	.	.	.	.	.	.
7.30	4,769	0	0	4,769	66,492	.=====D	.	.	.	.	.	.	.
7.45	4,279	0	0	4,279	67,870	.=====D	.	.	.	.	.	.	.
8.00	3,876	0	0	3,876	67,806	.=====D	.	.	.	.	.	.	.
8.15	4,223	137	0	4,360	69,883	.=====D	.	.	.	.	.	.	.
8.30	4,598	275	0	4,873	67,232	.=====D	.	.	.	.	.	.	.
8.45	4,346	382	0	4,728	60,919	.=====D	.	.	.	.	.	.	.
9.00	4,254	489	0	4,743	59,539	.=====D	.	.	.	.	.	.	.
9.15	4,887	691	0	5,578	64,164	.=====D	.	.	.	.	.	.	.
9.30	5,713	894	0	6,607	70,520	.=====D	.	.	.	.	.	.	.
9.45	4,875	757	0	5,632	70,083	.=====D	.	.	.	.	.	.	.
10.00	3,829	512	0	4,341	65,702	.=====D	.	.	.	.	.	.	.
10.15	3,520	950	0	4,470	67,026	.=====D	.	.	.	.	.	.	.
10.30	3,523	1,496	0	5,019	73,261	.=====D	.	.	.	.	.	.	.
10.45	3,330	1,442	0	4,772	78,046	.=====D	.	.	.	.	.	.	.
11.00	2,701	1,387	0	4,088	83,229	.=====D	.	.	.	.	.	.	.
11.15	3,168	1,379	0	4,547	89,117	.=====D	.	.	.	.	.	.	.
11.30	4,093	1,635	0	5,728	88,181	.=====D	.	.	.	.	.	.	.
11.45	4,027	2,176	0	6,203	85,249	.=====D	.	.	.	.	.	.	.
12.00	3,701	3,103	0	6,804	85,606	.=====D	.	.	.	.	.	.	.
12.15	3,390	3,863	0	7,253	84,583	.=====D	.	.	.	.	.	.	.
12.30	3,018	3,961	0	6,979	86,226	.=====D	.	.	.	.	.	.	.
12.45	2,728	3,502	0	6,230	86,267	.=====D	.	.	.	.	.	.	.
13.00	2,307	3,438	0	5,745	81,328	.=====D	.	.	.	.	.	.	.
13.15	2,101	4,300	0	6,401	78,437	.=====D	.	.	.	.	.	.	.
13.30	1,611	4,419	0	6,030	78,431	.=====D	.	.	.	.	.	.	.
13.45	905	4,819	0	5,724	80,535	.=====D	.	.	.	.	.	.	.
14.00	905	5,258	0	6,163	85,246	.=====D	.	.	.	.	.	.	.
14.15	996	4,554	0	5,550	91,822	.=====D	.	.	.	.	.	.	.
14.30	948	4,227	0	5,175	96,787	.=====D	.	.	.	.	.	.	.
14.45	930	4,398	0	5,328	96,921	.=====D	.	.	.	.	.	.	.
15.00	1,175	4,817	0	5,992	95,030	.=====D	.	.	.	.	.	.	.
15.15	1,334	4,864	0	6,198	101,398	.=====D	.	.	.	.	.	.	.
15.30	1,157	5,012	0	6,169	109,673	.=====D	.	.	.	.	.	.	.
15.45	1,565	5,863	0	7,428	113,701	.=====D	.	.	.	.	.	.	.
16.00	2,167	5,927	0	8,094	116,778	.=====D	.	.	.	.	.	.	.
16.15	2,322	6,117	0	8,439	132,931	.=====D	.	.	.	.	.	.	.
16.30	2,854	5,774	0	8,628	151,423	.=====D	.	.	.	.	.	.	.
16.45	3,254	4,641	0	7,895	166,165	.=====D	.	.	.	.	.	.	.
17.00	3,630	4,370	0	8,000	182,644	.=====D	.	.	.	.	.	.	.
17.15	4,043	4,445	0	8,488	198,303	.=====D	.	.	.	.	.	.	.
17.30	4,124	4,294	0	8,418	208,384	.=====D	.	.	.	.	.	.	.
17.45	4,319	4,134	0	8,453	212,276	.=====D	.	.	.	.	.	.	.
18.00	4,297	3,636	0	7,933	214,858	.=====D	.	.	.	.	.	.	.
18.15	3,721	3,344	0	7,065	228,681	.=====D	.	.	.	.	.	.	.
18.30	2,988	3,732	0	6,720	244,076	.=====D	.	.	.	.	.	.	.
18.45	2,699	4,106	0	6,805	240,546	.=====D	.	.	.	.	.	.	.
19.00	2,390	4,439	0	6,829	221,690	.=====D	.	.	.	.	.	.	.
19.15	1,947	4,186	0	6,133	197,488	.=====D	.	.	.	.	.	.	.
19.30	1,857	3,245	0	5,102	181,381	.=====D	.	.	.	.	.	.	.
19.45	1,536	2,336	0	3,872	169,453	.=====D	.	.	.	.	.	.	.
20.00	1,260	1,828	0	3,088	156,977	.=====D	.	.	.	.	.	.	.
20.15	1,080	1,546	0	2,626	154,718	.=====D	.	.	.	.	.	.	.
20.30	793	1,399	0	2,192	151,517	.=====D	.	.	.	.	.	.	.
20.45	456	1,223	0	1,679	136,372	.=====D	.	.	.	.	.	.	.
21.00	227	1,380	0	1,607	124,350	.=====D	.	.	.	.	.	.	.
21.15	114	1,665	0	1,779	117,357	.=====D	.	.	.	.	.	.	.
21.30	0	1,483	0	1,483	110,992	.=====D	.	.	.	.	.	.	.
21.45	0	1,561	0	1,561	100,811	.=====D	.	.	.	.	.	.	.
22.00	0	2,268	0	2,268	91,180	.=====D	.	.	.	.	.	.	.
22.15	0	2,711	0	2,711	79,863	.=====D	.	.	.	.	.	.	.
22.30	0	2,612	0	2,612	72,365	.=====D	.	.	.	.	.	.	.
22.45	0	2,404	0	2,404	62,788	.=====D	.	.	.	.	.	.	.
23.00	0	2,321	0	2,321	52,137	.=====D	.	.	.	.	.	.	.
23.15	0	2,060	0	2,060	41,456	.=====D	.	.	.	.	.	.	.
23.30	0	1,708	0	1,708	33,935	.=====D	.	.	.	.	.	.	.
23.45	0	881	0	881	21,551	.=====D	.	.	.	.	.	.	.
28,058					1,839,892	TOTAL TRIPS (196 RECORDS)							
28,991					57,049								

**TABLE 2.3.23A**  
**TRIPS-IN-MOTION ANALYSIS - 1990 HOME-BASED SCHOOL TRIPS**

BEGIN HH.MM	TRIPS FROM HOME	WITHIN TO HOME	60 MIN. NON- HOME	FROM BEGIN TIME SET TOTAL	DAILY TOTAL	FOR (01) SET HOME-BASED SCHOOL TRANSIT PSGR PCT/SET=33.33 TOTAL	66.66 123600	99.98 185400	133.31 247200	166.64 309000	199.97 370800	233.30 432600	266.62 494400
0.00	0	0	0	0	441	.	.	.	.	.	.	.	.
0.15	0	0	0	0	123	.	.	.	.	.	.	.	.
0.30	0	0	0	0	62	.	.	.	.	.	.	.	.
0.45	0	0	0	0	0	.	.	.	.	.	.	.	.
1.00	0	0	0	0	0	.	.	.	.	.	.	.	.
1.15	0	0	0	0	0	.	.	.	.	.	.	.	.
1.30	0	0	0	0	0	.	.	.	.	.	.	.	.
1.45	0	0	0	0	0	.	.	.	.	.	.	.	.
2.00	0	0	0	0	0	.	.	.	.	.	.	.	.
2.15	0	0	0	0	0	.	.	.	.	.	.	.	.
2.30	0	0	0	0	84	.	.	.	.	.	.	.	.
2.45	0	0	0	0	168	.	.	.	.	.	.	.	.
3.00	0	0	0	0	168	.	.	.	.	.	.	.	.
3.15	0	0	0	0	168	.	.	.	.	.	.	.	.
3.30	0	0	0	0	84	.	.	.	.	.	.	.	.
3.45	0	0	0	0	118	.	.	.	.	.	.	.	.
4.00	0	0	0	0	237	.	.	.	.	.	.	.	.
4.15	0	0	0	0	794	.	.	.	.	.	.	.	.
4.30	0	0	0	0	1,353	.	.	.	.	.	.	.	.
4.45	0	0	0	0	1,970	.	.	.	.	.	.	.	.
5.00	0	0	0	0	2,679	.	.	.	.	.	.	.	.
5.15	72	0	0	72	4,629	.D	.	.	.	.	.	.	.
5.30	144	0	0	144	8,403	.D	.	.	.	.	.	.	.
5.45	1,715	0	0	1,715	15,166	.=D	.	.	.	.	.	.	.
6.00	3,547	0	0	3,547	24,909	.S==D	.	.	.	.	.	.	.
6.15	11,628	0	0	11,628	56,434	.SS=====D.	.	.	.	.	.	.	.
6.30	24,847	0	0	24,847	107,197	.SSSS=====D	.	.	.	.	.	.	.
6.45	36,173	0	0	36,173	195,714	.SSSSSS=====D	.	.	.	.	.	.	.
7.00	44,992	0	0	44,992	305,819	.SSSSSSS=====D.	.	.	.	.	.	.	.
7.15	57,656	0	0	57,656	427,739	.SSSSSSSS=====D.	.	.	.	.	.	.	.
7.30	64,698	0	0	64,698	518,820	.SSSSSSSSS=====D	.	.	.	.	.	.	.
7.45	56,177	0	0	56,177	505,988	.SSSSSSSSSS=====D	.	.	.	.	.	.	.
8.00	45,155	0	0	45,155	405,214	.SSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.15	33,328	0	0	33,328	265,772	.SSSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.30	20,556	0	0	20,556	155,259	.SSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
8.45	13,226	76	0	13,302	95,959	.SSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.00	9,760	152	0	9,912	66,232	.SSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.15	6,894	342	0	7,236	47,705	.SSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.30	5,963	532	0	6,495	37,474	.SSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
9.45	5,126	761	0	5,887	29,258	.SSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.00	3,418	990	0	4,408	23,731	.SSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.15	2,104	1,405	0	3,509	21,664	.SSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.30	2,079	1,945	0	4,024	24,486	.SSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
10.45	2,303	2,541	0	4,844	29,176	.SSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.00	2,426	3,014	0	5,440	36,273	.SSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.15	2,303	4,519	0	6,822	50,197	.SSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.30	2,354	6,120	0	8,474	62,070	.SSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
11.45	2,045	6,263	0	8,308	64,674	.SSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.00	1,806	6,530	0	8,336	62,950	.SSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.15	1,572	6,717	0	8,289	57,211	.SSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.30	1,408	5,724	0	7,132	48,310	.SSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
12.45	1,406	4,944	0	6,350	46,570	.SSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.00	1,098	4,772	0	5,870	52,572	.SSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.15	1,128	5,695	0	6,823	68,575	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.30	1,115	8,205	0	9,320	91,820	.TSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
13.45	1,198	14,226	0	15,424	142,511	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.00	1,406	21,928	0	23,334	217,503	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.15	1,542	34,777	0	36,319	306,964	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.30	1,679	47,886	0	49,565	358,924	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
14.45	1,442	52,259	0	53,701	345,836	.SSSSSSSSSTSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
15.00	1,101	47,481	0	48,582	282,585	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
15.15	635	41,616	0	42,251	205,198	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
15.30	273	36,690	0	36,963	149,493	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
15.45	453	28,138	0	28,591	104,785	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
16.00	633	20,979	0	21,612	78,810	.SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS=====D	.	.	.	.	.	.	.
16.15	633	17,495	0	18,128	68,433	.SS=====D	.	.	.	.	.	.	.
16.30	497	15,872	0	16,369	64,726	.SS=====D	.	.	.	.	.	.	.
16.45	360	13,947	0	14,307	58,868	.SS=====D	.	.	.	.	.	.	.
17.00	180	10,974	0	11,154	54,794	.SS=====D	.	.	.	.	.	.	.
17.15	308	7,250	0	7,558	49,268	.SS=====D	.	.	.	.	.	.	.
17.30	616	5,770	0	6,386	48,105	.SSS=====D	.	.	.	.	.	.	.
17.45	1,163	4,069	0	5,232	46,280	.SS=====D	.	.	.	.	.	.	.
18.00	1,713	2,741	0	4,454	40,712	.SS=====D	.	.	.	.	.	.	.
18.15	1,549	2,134	0	3,683	32,906	.SS=====D	.	.	.	.	.	.	.
18.30	1,294	1,605	0	2,899	27,885	.SS=====D	.	.	.	.	.	.	.
18.45	1,203	1,246	0	2,449	25,502	.SS=====D	.	.	.	.	.	.	.
19.00	1,045	1,244	0	2,289	22,617	.SSS=====D	.	.	.	.	.	.	.
19.15	891	1,419	0	2,310	19,990	.SS=====D	.	.	.	.	.	.	.
19.30	894	1,073	0	1,967	18,211	.SS=====D	.	.	.	.	.	.	.
19.45	662	628	0	1,290	16,278	.SS=====D	.	.	.	.	.	.	.
20.00	430	561	0	991	14,831	.SS=====D	.	.	.	.	.	.	.
20.15	430	1,054	0	1,484	14,638	.SS=====D	.	.	.	.	.	.	.
20.30	215	1,404	0	1,619	16,000	.SS=====D	.	.	.	.	.	.	.
20.45	0	1,573	0	1,573	17,588	.SS=====D	.	.	.	.	.	.	.
21.00	0	2,217	0	2,217	20,130	.SS=====D	.	.	.	.	.	.	.
21.15	0	2,863	0	2,863	22,486	.SS=====D	.	.	.	.	.	.	.
21.30	0	2,799	0	2,799	22,101	.SS=====D	.	.	.	.	.	.	.
21.45	0	2,416	0	2,416	19,350	.SS=====D	.	.	.	.	.	.	.
22.00	0	2,280	0	2,280	16,387	.SS=====D	.	.	.	.	.	.	.
22.15	0	2,040	0	2,040	11,321	.SS=====D	.	.	.	.	.	.	.
22.30	0	1,199	0	1,199	7,030	.SS=====D	.	.	.	.	.	.	.
22.45	0	458	0	458	4,654	.SS=====D	.	.	.	.	.	.	.
23.00	0	458	0	458	3,970	.SS=====D	.	.	.	.	.	.	.
23.15	0	458	0	458	3,984	.SS=====D	.	.	.	.	.	.	.
23.30	0	458	0	458	3,408	.SS=====D	.	.	.	.	.	.	.
23.45	0	229	0	229	1,775	.SS=====D	.	.	.	.	.	.	.
91,417					0	1,663,860	TOTAL TRIPS (591 RECORDS)						
94,013					185,430								



TABLE 2.3.24A  
TRIPS-IN-MOTION ANALYSIS - 1990 NON-HOME-BASED TRIPS

BEGIN HH:MM	TRIPS FROM HOME	WITHIN TO HOME	60 MIN. NON- HOME	FROM BEGIN TIME SET TOTAL	DAILY TOTAL	FOR (01) SET PCT/SET=43.99 77400	NON-HOME-BASED 87.98 154800	TRANSIT 131.98 232200	PSGR 175.97 309600	DAILY IS 219.96 387000	NON-HOME-BASED 263.95 464400	TOTAL 307.94 541800	351.94 619200
0.00	0	0	0	0	3,702	.	.	.	.	.	.	.	.
0.15	0	0	0	0	2,663	.	.	.	.	.	.	.	.
0.30	0	0	0	0	1,846	.	.	.	.	.	.	.	.
0.45	0	0	0	0	2,337	.	.	.	.	.	.	.	.
1.00	0	0	0	0	3,413	.	.	.	.	.	.	.	.
1.15	0	0	0	0	4,015	.D	.	.	.	.	.	.	.
1.30	0	0	0	0	3,526	.	.	.	.	.	.	.	.
1.45	0	0	140	140	2,366	.	.	.	.	.	.	.	.
2.00	0	0	281	281	1,673	.	.	.	.	.	.	.	.
2.15	0	0	281	281	1,370	.	.	.	.	.	.	.	.
2.30	0	0	281	281	1,284	.	.	.	.	.	.	.	.
2.45	0	0	141	141	1,221	.	.	.	.	.	.	.	.
3.00	0	0	0	0	988	.	.	.	.	.	.	.	.
3.15	0	0	0	0	703	.	.	.	.	.	.	.	.
3.30	0	0	0	0	1,103	.	.	.	.	.	.	.	.
3.45	0	0	0	0	2,647	.	.	.	.	.	.	.	.
4.00	0	0	0	0	3,878	.D	.	.	.	.	.	.	.
4.15	0	0	67	67	4,397	.D	.	.	.	.	.	.	.
4.30	0	0	134	134	5,154	.D	.	.	.	.	.	.	.
4.45	0	0	134	134	6,579	.D	.	.	.	.	.	.	.
5.00	0	0	134	134	8,398	.D	.	.	.	.	.	.	.
5.15	0	0	268	268	11,477	.D	.	.	.	.	.	.	.
5.30	0	0	506	506	15,802	.D	.	.	.	.	.	.	.
5.45	0	0	1,037	1,037	19,657	.D	.	.	.	.	.	.	.
6.00	0	0	1,698	1,698	24,979	.D	.	.	.	.	.	.	.
6.15	0	0	2,520	2,520	38,276	.D	.	.	.	.	.	.	.
6.30	0	0	3,833	3,833	55,755	.D	.	.	.	.	.	.	.
6.45	0	0	5,370	5,370	74,310	.D	.	.	.	.	.	.	.
7.00	0	0	7,682	7,682	96,960	.D	.	.	.	.	.	.	.
7.15	0	0	10,730	10,730	123,735	.D	.	.	.	.	.	.	.
7.30	0	0	12,901	12,901	147,439	.D	.	.	.	.	.	.	.
7.45	0	0	14,055	14,055	169,168	.D	.	.	.	.	.	.	.
8.00	0	0	14,321	14,321	186,463	.D	.	.	.	.	.	.	.
8.15	0	0	13,344	13,344	196,726	.D	.	.	.	.	.	.	.
8.30	0	0	12,333	12,333	201,984	.D	.	.	.	.	.	.	.
8.45	0	0	11,658	11,658	212,225	.D	.	.	.	.	.	.	.
9.00	0	0	10,569	10,569	219,743	.D	.	.	.	.	.	.	.
9.15	0	0	10,684	10,684	242,452	.D	.	.	.	.	.	.	.
9.30	0	0	10,868	10,868	266,755	.D	.	.	.	.	.	.	.
9.45	0	0	10,554	10,554	287,243	.D	.	.	.	.	.	.	.
10.00	0	0	10,235	10,235	305,790	.D	.	.	.	.	.	.	.
10.15	0	0	10,435	10,435	326,115	.D	.	.	.	.	.	.	.
10.30	0	0	11,311	11,311	353,827	.D	.	.	.	.	.	.	.
10.45	0	0	13,969	13,969	400,915	.D	.	.	.	.	.	.	.
11.00	0	0	16,093	16,093	453,704	.D	.	.	.	.	.	.	.
11.15	0	0	16,452	16,452	542,751	.D	.	.	.	.	.	.	.
11.30	0	0	17,757	17,757	622,917	.D	.	.	.	.	.	.	.
11.45	0	0	17,150	17,150	649,554	.D	.	.	.	.	.	.	.
12.00	0	0	16,231	16,231	641,284	.D	.	.	.	.	.	.	.
12.15	0	0	19,498	19,498	623,296	.D	.	.	.	.	.	.	.
12.30	0	0	22,378	22,378	617,046	.D	.	.	.	.	.	.	.
12.45	0	0	23,542	23,542	596,833	.D	.	.	.	.	.	.	.
13.00	0	0	23,599	23,599	551,581	.D	.	.	.	.	.	.	.
13.15	0	0	23,947	23,947	509,991	.D	.	.	.	.	.	.	.
13.30	0	0	24,489	24,489	496,836	.D	.	.	.	.	.	.	.
13.45	0	0	23,255	23,255	487,311	.D	.	.	.	.	.	.	.
14.00	0	0	22,484	22,484	484,359	.D	.	.	.	.	.	.	.
14.15	0	0	22,713	22,713	490,779	.D	.	.	.	.	.	.	.
14.30	0	0	23,460	23,460	485,738	.D	.	.	.	.	.	.	.
14.45	0	0	23,761	23,761	471,512	.D	.	.	.	.	.	.	.
15.00	0	0	23,672	23,672	451,560	.D	.	.	.	.	.	.	.
15.15	0	0	23,947	23,947	424,315	.D	.	.	.	.	.	.	.
15.30	0	0	25,147	25,147	401,251	.D	.	.	.	.	.	.	.
15.45	0	0	25,846	25,846	385,221	.D	.	.	.	.	.	.	.
16.00	0	0	25,120	25,120	379,955	.D	.	.	.	.	.	.	.
16.15	0	0	26,510	26,510	388,517	.D	.	.	.	.	.	.	.
16.30	0	0	28,139	28,139	401,154	.D	.	.	.	.	.	.	.
16.45	0	0	28,309	28,309	391,169	.D	.	.	.	.	.	.	.
17.00	0	0	26,800	26,800	362,138	.D	.	.	.	.	.	.	.
17.15	0	0	24,790	24,790	322,794	.D	.	.	.	.	.	.	.
17.30	0	0	24,412	24,412	293,643	.D	.	.	.	.	.	.	.
17.45	0	0	22,773	22,773	263,032	.D	.	.	.	.	.	.	.
18.00	0	0	20,007	20,007	230,250	.D	.	.	.	.	.	.	.
18.15	0	0	16,363	16,363	201,446	.D	.	.	.	.	.	.	.
18.30	0	0	12,486	12,486	183,603	.D	.	.	.	.	.	.	.
18.45	0	215	9,320	9,535	165,581	.D	.	.	.	.	.	.	.
19.00	0	430	7,381	7,811	147,426	.D	.	.	.	.	.	.	.
19.15	0	430	6,113	6,543	136,418	.D	.	.	.	.	.	.	.
19.30	0	430	5,253	5,683	132,238	.D	.	.	.	.	.	.	.
19.45	0	430	4,128	4,558	117,932	.D	.	.	.	.	.	.	.
20.00	0	430	3,485	3,915	103,998	.D	.	.	.	.	.	.	.
20.15	0	215	3,305	3,520	90,928	.D	.	.	.	.	.	.	.
20.30	0	0	2,665	2,665	75,932	.D	.	.	.	.	.	.	.
20.45	0	0	1,722	1,722	64,916	.D	.	.	.	.	.	.	.
21.00	0	0	1,227	1,227	57,291	.D	.	.	.	.	.	.	.
21.15	0	0	1,505	1,505	49,454	.D	.	.	.	.	.	.	.
21.30	0	0	2,073	2,073	43,371	.D	.	.	.	.	.	.	.
21.45	0	0	1,748	1,748	38,980	.D	.	.	.	.	.	.	.
22.00	0	0	1,453	1,453	35,282	.D	.	.	.	.	.	.	.
22.15	0	0	1,087	1,087	30,621	.D	.	.	.	.	.	.	.
22.30	0	0	933	933	26,728	.D	.	.	.	.	.	.	.
22.45	0	0	1,175	1,175	23,948	.D	.	.	.	.	.	.	.
23.00	0	0	1,175	1,175	18,972	.D	.	.	.	.	.	.	.
23.15	0	0	987	987	13,658	.D	.	.	.	.	.	.	.
23.30	0	0	641	641	10,763	.D	.	.	.	.	.	.	.
23.45	0	0	242	242	6,327	.D	.	.	.	.	.	.	.
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0			175,511	4,687,886	TOTAL TRIPS (629 RECORDS)								
430			175,941										

Table 2.3.25A

Trips in Motion Analysis — Share of Trips by Trip Purpose by Time Period

Hour Starting	Home-Based Work	Home-Based Shop	Home-Based Social/Rec	Home-Based School	Non-Home-Based	TOTAL
0.00	39.7%	20.4%	31.0%	0.9%	7.9%	100.0%
0.15	40.6%	17.7%	35.0%	0.3%	6.4%	100.0%
0.30	43.2%	13.8%	37.6%	0.2%	5.3%	100.0%
0.45	42.3%	12.1%	37.4%	0.0%	8.1%	100.0%
1.00	37.2%	12.5%	36.4%	0.0%	13.9%	100.0%
1.15	35.0%	11.9%	35.1%	0.0%	18.0%	100.0%
1.30	38.6%	12.6%	31.5%	0.0%	17.3%	100.0%
1.45	44.7%	11.7%	31.1%	0.0%	12.5%	100.0%
2.00	47.7%	11.0%	32.3%	0.0%	9.1%	100.0%
2.15	55.7%	12.1%	24.7%	0.0%	7.5%	100.0%
2.30	62.9%	12.0%	18.2%	0.4%	6.5%	100.0%
2.45	67.9%	10.0%	15.0%	0.9%	6.3%	100.0%
3.00	74.5%	8.5%	10.1%	1.0%	5.9%	100.0%
3.15	82.0%	8.1%	4.2%	1.1%	4.6%	100.0%
3.30	84.4%	6.8%	1.8%	0.5%	6.4%	100.0%
3.45	82.7%	5.0%	1.7%	0.5%	10.2%	100.0%
4.00	80.9%	6.0%	1.8%	0.7%	10.7%	100.0%
4.15	80.7%	6.9%	2.8%	1.5%	8.2%	100.0%
4.30	79.8%	8.1%	3.9%	1.7%	6.5%	100.0%
4.45	77.8%	10.7%	4.7%	1.6%	5.3%	100.0%
5.00	77.4%	11.1%	5.3%	1.5%	4.7%	100.0%
5.15	77.2%	10.7%	5.9%	1.8%	4.4%	100.0%
5.30	77.7%	9.9%	5.4%	2.4%	4.5%	100.0%
5.45	78.4%	9.0%	4.9%	3.3%	4.3%	100.0%
6.00	78.2%	8.4%	4.7%	4.4%	4.4%	100.0%
6.15	75.1%	8.2%	4.1%	7.6%	5.1%	100.0%
6.30	70.6%	8.3%	3.7%	11.4%	5.9%	100.0%
6.45	64.1%	9.2%	3.6%	16.8%	6.4%	100.0%
7.00	57.8%	10.5%	3.3%	21.6%	6.8%	100.0%
7.15	51.7%	12.2%	3.5%	25.3%	7.3%	100.0%
7.30	47.0%	14.0%	3.5%	27.7%	7.9%	100.0%
7.45	43.7%	16.1%	3.7%	27.4%	9.2%	100.0%
8.00	41.6%	18.0%	4.1%	24.8%	11.4%	100.0%
8.15	40.7%	20.1%	5.1%	19.6%	14.5%	100.0%
8.30	39.7%	22.5%	6.0%	13.8%	18.0%	100.0%
8.45	35.4%	25.5%	6.5%	10.2%	22.5%	100.0%
9.00	29.4%	28.9%	7.2%	8.0%	26.6%	100.0%
9.15	23.0%	32.2%	8.1%	6.0%	30.6%	100.0%
9.30	19.4%	33.9%	8.8%	4.7%	33.3%	100.0%
9.45	16.4%	34.8%	8.9%	3.7%	36.3%	100.0%
10.00	13.7%	34.6%	8.6%	3.1%	39.9%	100.0%
10.15	11.3%	34.3%	8.8%	2.8%	42.8%	100.0%
10.30	10.0%	33.7%	9.1%	3.1%	44.2%	100.0%
10.45	8.9%	32.0%	9.1%	3.4%	46.6%	100.0%
11.00	8.1%	30.2%	9.0%	3.9%	48.9%	100.0%
11.15	8.2%	26.9%	8.5%	4.8%	51.6%	100.0%
11.30	8.5%	25.0%	7.6%	5.3%	53.5%	100.0%
11.45	8.6%	24.1%	7.2%	5.4%	54.7%	100.0%
12.00	8.8%	23.0%	7.4%	5.4%	55.3%	100.0%
12.15	9.6%	22.6%	7.5%	5.1%	55.2%	100.0%
12.30	10.1%	22.5%	7.7%	4.3%	55.4%	100.0%
12.45	10.1%	22.7%	7.9%	4.3%	54.9%	100.0%
13.00	10.0%	24.1%	7.8%	5.0%	53.0%	100.0%
13.15	10.3%	25.2%	7.7%	6.7%	50.1%	100.0%
13.30	10.6%	26.2%	7.4%	8.7%	47.1%	100.0%
13.45	11.1%	26.6%	7.1%	12.5%	42.7%	100.0%
14.00	11.3%	26.1%	6.8%	17.3%	38.6%	100.0%
14.15	12.0%	25.2%	6.5%	21.7%	34.6%	100.0%
14.30	13.4%	25.1%	6.3%	23.4%	31.7%	100.0%
14.45	16.1%	25.2%	6.2%	22.2%	30.2%	100.0%
15.00	19.0%	25.3%	6.4%	19.0%	30.3%	100.0%
15.15	23.1%	25.3%	7.2%	14.5%	30.0%	100.0%
15.30	26.8%	25.5%	7.9%	10.8%	28.9%	100.0%
15.45	30.7%	25.7%	8.2%	7.6%	27.8%	100.0%
16.00	33.5%	25.7%	8.3%	5.6%	26.9%	100.0%
16.15	37.7%	24.1%	8.6%	4.4%	25.2%	100.0%
16.30	40.8%	22.5%	9.0%	3.8%	23.8%	100.0%
16.45	41.8%	22.1%	9.7%	3.5%	22.9%	100.0%
17.00	42.1%	22.1%	10.9%	3.3%	21.6%	100.0%
17.15	41.1%	23.2%	12.4%	3.1%	20.2%	100.0%
17.30	39.5%	24.1%	13.8%	3.2%	19.4%	100.0%
17.45	37.0%	25.0%	15.5%	3.4%	19.2%	100.0%
18.00	34.2%	26.1%	17.6%	3.3%	18.8%	100.0%
18.15	30.6%	27.1%	20.9%	3.0%	18.4%	100.0%
18.30	26.8%	28.6%	23.9%	2.7%	18.0%	100.0%
18.45	23.6%	30.5%	25.6%	2.7%	17.6%	100.0%
19.00	20.9%	31.8%	26.8%	2.7%	17.8%	100.0%
19.15	18.9%	32.4%	27.2%	2.8%	18.8%	100.0%
19.30	17.9%	32.3%	27.2%	2.7%	19.8%	100.0%
19.45	17.0%	31.7%	28.6%	2.7%	19.9%	100.0%
20.00	16.3%	31.2%	29.9%	2.8%	19.8%	100.0%
20.15	16.1%	30.2%	31.9%	3.0%	18.7%	100.0%
20.30	16.6%	29.3%	33.7%	3.6%	16.9%	100.0%
20.45	16.9%	29.7%	33.3%	4.3%	15.8%	100.0%
21.00	17.8%	29.4%	32.5%	5.3%	15.0%	100.0%
21.15	19.2%	27.3%	33.2%	6.4%	14.0%	100.0%
21.30	20.1%	26.0%	33.9%	6.8%	13.3%	100.0%
21.45	20.6%	25.2%	34.4%	6.6%	13.3%	100.0%
22.00	21.6%	23.1%	35.3%	6.3%	13.7%	100.0%
22.15	24.6%	21.4%	35.4%	5.0%	13.6%	100.0%
22.30	27.3%	21.2%	35.1%	3.4%	13.0%	100.0%
22.45	29.6%	21.5%	33.6%	2.5%	12.8%	100.0%
23.00	32.3%	21.3%	32.3%	2.5%	11.7%	100.0%
23.15	34.6%	20.3%	31.7%	3.0%	10.4%	100.0%
23.30	35.8%	20.0%	31.2%	3.1%	9.9%	100.0%
23.45	37.8%	20.6%	30.2%	2.5%	8.9%	100.0%

### Appendix 3.0

#### WEEKDAY 1990 REGIONAL HOUSEHOLD TRIP RATES



**Table 3.2.1A**  
**1990 Regional Trips per Household by Household Size**

Household Size	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
One Person	Vehicle Driver	0.665	0.609	0.258	0.041	0.875	2.448
	In-Vehicle Person	0.697	0.654	0.307	0.045	0.958	2.661
	Transit	0.162	0.075	0.025	0.015	0.089	0.366
	Person	0.859	0.729	0.332	0.060	1.047	3.027
	School Bus	0.000	0.000	0.000	0.000	0.000	0.000
	Bicycle	0.015	0.004	0.009	0.007	0.007	0.042
	Walk	0.061	0.167	0.066	0.006	0.260	0.559
	Other	0.003	0.002	0.001	0.002	0.002	0.010
	Total	0.937	0.902	0.408	0.076	1.315	3.639
Two Person	Vehicle Driver	1.462	1.151	0.430	0.082	1.391	4.516
	In-Vehicle Person	1.586	1.381	0.591	0.116	1.623	5.297
	Transit	0.186	0.060	0.027	0.034	0.057	0.363
	Person	1.772	1.441	0.618	0.150	1.680	5.660
	School Bus	0.000	0.000	0.000	0.012	0.000	0.012
	Bicycle	0.022	0.013	0.012	0.008	0.020	0.075
	Walk	0.051	0.109	0.086	0.036	0.285	0.567
	Other	0.004	0.005	0.008	0.000	0.015	0.031
	Total	1.849	1.567	0.724	0.205	2.000	6.345
Three Person	Vehicle Driver	1.965	1.447	0.503	0.197	1.640	5.752
	In-Vehicle Person	2.149	1.817	0.719	0.407	1.961	7.053
	Transit	0.206	0.074	0.025	0.108	0.112	0.525
	Person	2.355	1.891	0.745	0.515	2.072	7.578
	School Bus	0.000	0.000	0.000	0.034	0.000	0.034
	Bicycle	0.020	0.009	0.022	0.031	0.018	0.100
	Walk	0.052	0.129	0.077	0.166	0.268	0.691
	Other	0.006	0.006	0.002	0.004	0.007	0.025
	Total	2.432	2.035	0.846	0.750	2.365	8.427
Four Person	Vehicle Driver	2.242	1.965	0.619	0.314	1.805	6.945
	In-Vehicle Person	2.458	2.559	1.094	0.914	2.370	9.396
	Transit	0.192	0.066	0.032	0.115	0.119	0.524
	Person	2.650	2.624	1.126	1.030	2.489	9.920
	School Bus	0.000	0.000	0.000	0.152	0.000	0.152
	Bicycle	0.040	0.025	0.060	0.079	0.023	0.228
	Walk	0.059	0.166	0.105	0.327	0.279	0.936
	Other	0.003	0.006	0.004	0.001	0.005	0.018
	Total	2.751	2.821	1.295	1.589	2.797	11.254
Five+ Person	Vehicle Driver	2.373	2.419	0.686	0.382	1.692	7.551
	In-Vehicle Person	2.771	3.319	1.251	1.345	2.386	11.072
	Transit	0.333	0.150	0.035	0.313	0.128	0.958
	Person	3.104	3.469	1.286	1.658	2.513	12.029
	School Bus	0.000	0.000	0.000	0.401	0.000	0.401
	Bicycle	0.050	0.036	0.056	0.094	0.032	0.267
	Walk	0.104	0.251	0.153	0.663	0.396	1.567
	Other	0.002	0.016	0.003	0.000	0.017	0.038
	Total	3.259	3.772	1.499	2.815	2.958	14.303
Total HH	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.009	0.023
	Total	1.991	1.891	0.827	0.744	2.100	7.553

**Table 3.2.2A**  
**1990 Regional Trips per Person by Household Size**

Household Size	Mode	Home - Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
One Person	Vehicle Driver	0.665	0.609	0.258	0.041	0.875	2.448
	In-Vehicle Person	0.697	0.654	0.307	0.045	0.958	2.661
	Transit	0.162	0.075	0.025	0.015	0.089	0.366
	Person	0.859	0.729	0.332	0.060	1.047	3.027
	School Bus	0.000	0.000	0.000	0.000	0.000	0.000
	Bicycle	0.015	0.004	0.009	0.007	0.007	0.042
	Walk	0.061	0.167	0.066	0.006	0.260	0.559
	Other	0.003	0.002	0.001	0.002	0.002	0.010
	Total	0.937	0.902	0.408	0.076	1.315	3.639
Two Person	Vehicle Driver	0.731	0.576	0.215	0.041	0.695	2.258
	In-Vehicle Person	0.793	0.691	0.296	0.058	0.811	2.649
	Transit	0.093	0.030	0.013	0.017	0.029	0.181
	Person	0.886	0.720	0.309	0.075	0.840	2.830
	School Bus	0.000	0.000	0.000	0.006	0.000	0.006
	Bicycle	0.011	0.006	0.006	0.004	0.010	0.037
	Walk	0.025	0.055	0.043	0.018	0.143	0.284
	Other	0.002	0.002	0.004	0.000	0.008	0.016
	Total	0.924	0.784	0.362	0.103	1.000	3.172
Three Person	Vehicle Driver	0.655	0.482	0.168	0.066	0.547	1.917
	In-Vehicle Person	0.716	0.606	0.240	0.136	0.654	2.351
	Transit	0.069	0.025	0.008	0.036	0.037	0.175
	Person	0.785	0.630	0.248	0.172	0.691	2.526
	School Bus	0.000	0.000	0.000	0.011	0.000	0.011
	Bicycle	0.007	0.003	0.007	0.010	0.006	0.033
	Walk	0.017	0.043	0.026	0.055	0.089	0.230
	Other	0.002	0.002	0.001	0.001	0.002	0.008
	Total	0.811	0.678	0.282	0.250	0.788	2.809
Four Person	Vehicle Driver	0.560	0.491	0.155	0.079	0.451	1.736
	In-Vehicle Person	0.614	0.640	0.274	0.229	0.593	2.349
	Transit	0.048	0.016	0.008	0.029	0.030	0.131
	Person	0.662	0.656	0.282	0.257	0.622	2.480
	School Bus	0.000	0.000	0.000	0.038	0.000	0.038
	Bicycle	0.010	0.006	0.015	0.020	0.006	0.057
	Walk	0.015	0.042	0.026	0.082	0.070	0.234
	Other	0.001	0.001	0.001	0.000	0.001	0.004
	Total	0.688	0.705	0.324	0.397	0.699	2.813
Five+ Person	Vehicle Driver	0.404	0.412	0.117	0.065	0.288	1.285
	In-Vehicle Person	0.471	0.565	0.213	0.229	0.406	1.884
	Transit	0.057	0.025	0.006	0.053	0.022	0.163
	Person	0.528	0.590	0.219	0.282	0.428	2.047
	School Bus	0.000	0.000	0.000	0.068	0.000	0.068
	Bicycle	0.008	0.006	0.010	0.016	0.005	0.045
	Walk	0.018	0.043	0.026	0.113	0.067	0.267
	Other	0.000	0.003	0.001	0.000	0.003	0.006
	Total	0.554	0.642	0.255	0.479	0.503	2.434
Total HH	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.183
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.009
	Total	0.761	0.723	0.316	0.285	0.803	2.889



**Table 3.3.1A**  
**1990 Regional Trips per Household by Detailed Household Income Group**

Household Income	Mode	Home - Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
less than \$5,000	Vehicle Driver	0.140	0.655	0.153	0.102	0.358	1.408
	Total	0.381	1.367	0.462	0.662	1.027	3.898
\$5,000 - \$9,999	Vehicle Driver	0.286	0.637	0.221	0.140	0.454	1.738
	Total	0.513	1.554	0.530	0.387	1.055	4.038
\$10,000 - \$14,999	Vehicle Driver	0.504	0.913	0.266	0.161	0.908	2.752
	Total	1.068	1.534	0.563	0.928	1.419	5.511
\$15,000 - \$19,999	Vehicle Driver	0.813	1.187	0.344	0.069	1.029	3.441
	Total	1.293	1.803	0.676	0.479	1.722	5.972
\$20,000 - \$24,999	Vehicle Driver	1.030	1.229	0.401	0.099	1.168	3.927
	Total	1.470	1.884	0.706	0.571	1.881	6.511
\$25,000 - \$29,999	Vehicle Driver	1.181	1.226	0.317	0.107	1.076	3.907
	Total	1.677	1.860	0.592	0.649	1.873	6.652
\$30,000 - \$34,999	Vehicle Driver	1.549	1.215	0.432	0.134	1.387	4.718
	Total	1.995	1.708	0.833	0.735	2.066	7.337
\$35,000 - \$39,999	Vehicle Driver	1.737	1.499	0.463	0.193	1.370	5.262
	Total	2.209	2.075	0.865	0.889	1.969	8.007
\$40,000 - \$44,999	Vehicle Driver	1.828	1.487	0.437	0.166	1.517	5.434
	Total	2.265	2.032	0.724	0.803	2.179	8.003
\$45,000 - \$49,999	Vehicle Driver	1.894	1.624	0.603	0.164	1.619	5.903
	Total	2.394	2.155	1.007	0.788	2.333	8.677
\$50,000 - \$59,999	Vehicle Driver	2.048	1.688	0.556	0.216	1.874	6.383
	Total	2.447	2.295	0.999	0.897	2.776	9.414
\$60,000 - \$74,999	Vehicle Driver	2.217	1.732	0.584	0.215	2.019	6.766
	Total	2.720	2.308	0.995	0.846	2.998	9.866
\$75,000 - \$99,999	Vehicle Driver	2.289	1.807	0.651	0.227	2.195	7.169
	Total	2.776	2.420	1.100	0.928	3.154	10.377
\$100,000 - \$124,999	Vehicle Driver	2.286	1.547	0.792	0.175	2.321	7.121
	Total	2.786	2.055	1.296	0.754	3.468	10.359
\$125,000 and over	Vehicle Driver	2.250	1.886	0.711	0.215	2.788	7.851
	Total	2.685	2.436	1.286	0.797	3.965	11.168
Reporting Income	Vehicle Driver	1.608	1.425	0.478	0.165	1.541	5.218
	Total	2.065	2.022	0.858	0.765	2.332	8.043
Not Reporting Income	Vehicle Driver	1.418	1.070	0.396	0.136	1.060	4.080
	Total	1.830	1.606	0.762	0.698	1.598	6.493
	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
Total	Total	1.991	1.891	0.827	0.744	2.100	7.553



Table 3.3.2A

## 1990 Regional Trips per Person by Detailed Household Income Group

Household Income	Mode	Home - Based				Non- Home-Based	Total
		Work	Shop	Soc/Rec	School		
less than \$5,000	Vehicle Driver	0.077	0.361	0.084	0.056	0.197	0.776
	Total	0.210	0.753	0.255	0.365	0.566	2.148
\$5,000 - \$9,999	Vehicle Driver	0.170	0.379	0.131	0.083	0.270	1.033
	Total	0.305	0.924	0.315	0.230	0.627	2.401
\$10,000 - \$14,999	Vehicle Driver	0.210	0.380	0.111	0.067	0.378	1.145
	Total	0.444	0.638	0.234	0.386	0.590	2.293
\$15,000 - \$19,999	Vehicle Driver	0.382	0.558	0.161	0.032	0.483	1.617
	Total	0.608	0.847	0.318	0.225	0.809	2.806
\$20,000 - \$24,999	Vehicle Driver	0.484	0.577	0.188	0.046	0.549	1.846
	Total	0.691	0.886	0.332	0.268	0.884	3.061
\$25,000 - \$29,999	Vehicle Driver	0.509	0.529	0.137	0.046	0.464	1.684
	Total	0.723	0.802	0.255	0.280	0.808	2.868
\$30,000 - \$34,999	Vehicle Driver	0.628	0.493	0.175	0.054	0.562	1.912
	Total	0.808	0.692	0.338	0.298	0.837	2.973
\$35,000 - \$39,999	Vehicle Driver	0.657	0.567	0.175	0.073	0.519	1.992
	Total	0.836	0.785	0.327	0.336	0.745	3.030
\$40,000 - \$44,999	Vehicle Driver	0.682	0.555	0.163	0.062	0.566	2.028
	Total	0.845	0.758	0.270	0.300	0.813	2.987
\$45,000 - \$49,999	Vehicle Driver	0.671	0.576	0.214	0.058	0.574	2.093
	Total	0.849	0.764	0.357	0.279	0.827	3.076
\$50,000 - \$59,999	Vehicle Driver	0.725	0.597	0.197	0.077	0.663	2.259
	Total	0.866	0.812	0.354	0.318	0.983	3.332
\$60,000 - \$74,999	Vehicle Driver	0.754	0.589	0.198	0.073	0.686	2.300
	Total	0.924	0.784	0.338	0.287	1.019	3.353
\$75,000 - \$99,999	Vehicle Driver	0.757	0.598	0.215	0.075	0.726	2.371
	Total	0.918	0.800	0.364	0.307	1.043	3.432
\$100,000 - \$124,999	Vehicle Driver	0.771	0.522	0.267	0.059	0.783	2.402
	Total	0.940	0.693	0.437	0.254	1.170	3.495
\$125,000 and over	Vehicle Driver	0.745	0.625	0.235	0.071	0.923	2.600
	Total	0.889	0.807	0.426	0.264	1.313	3.698
Reporting Income	Vehicle Driver	0.620	0.550	0.184	0.064	0.594	2.012
	Total	0.796	0.780	0.331	0.295	0.899	3.101
Not Reporting Income	Vehicle Driver	0.533	0.402	0.149	0.051	0.399	1.534
	Total	0.688	0.604	0.286	0.262	0.601	2.441
Total	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	Total	0.761	0.723	0.316	0.285	0.803	2.889

**Table 3.3.3A**

**1990 Regional Transit Share for Work and Total Trips per Household by Income**

Household Income	Home - Based Work			Total Trips		
	Transit	All Modes	% Transit	Transit	All Modes	% Transit
less than \$5,000	0.154	0.381	40.6%	0.957	3.898	24.5%
\$5,000 - \$9,999	0.137	0.513	26.7%	0.828	4.038	20.5%
\$10,000 - \$14,999	0.258	1.068	24.2%	0.801	5.511	14.5%
\$15,000 - \$19,999	0.223	1.293	17.2%	0.577	5.972	9.7%
\$20,000 - \$24,999	0.195	1.470	13.3%	0.528	6.511	8.1%
\$25,000 - \$29,999	0.196	1.677	11.7%	0.488	6.652	7.3%
\$30,000 - \$34,999	0.199	1.995	10.0%	0.424	7.337	5.8%
\$35,000 - \$39,999	0.225	2.209	10.2%	0.397	8.007	5.0%
\$40,000 - \$44,999	0.169	2.265	7.4%	0.431	8.003	5.4%
\$45,000 - \$49,999	0.216	2.394	9.0%	0.405	8.677	4.7%
\$50,000 - \$59,999	0.194	2.447	7.9%	0.400	9.414	4.3%
\$60,000 - \$74,999	0.272	2.720	10.0%	0.474	9.866	4.8%
\$75,000 - \$99,999	0.214	2.776	7.7%	0.372	10.377	3.6%
\$100,000 - \$124,999	0.245	2.786	8.8%	0.479	10.359	4.6%
\$125,000 and over	0.168	2.685	6.3%	0.311	11.168	2.8%
Reporting Income	0.210	2.065	10.2%	0.486	8.043	6.0%
Not Reporting Income	0.178	1.830	9.7%	0.464	6.493	7.1%
Total	0.200	1.991	10.0%	0.479	7.553	6.3%

Table 3.4.1A

## 1990 Regional Trips per Household by Vehicle Availability

Vehicles Available	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Zero Vehicle	Vehicle Driver	0.084	0.081	0.022	0.017	0.137	0.341
	In-Vehicle Person	0.176	0.235	0.122	0.051	0.296	0.879
	Transit	0.447	0.438	0.139	0.272	0.297	1.593
	Person	0.623	0.673	0.261	0.322	0.593	2.472
	School Bus	0.000	0.000	0.000	0.037	0.000	0.037
	Bicycle	0.046	0.009	0.001	0.009	0.017	0.083
	Walk	0.188	0.418	0.103	0.139	0.403	1.251
	Other	0.012	0.021	0.006	0.006	0.002	0.046
Total		0.869	1.120	0.371	0.513	1.015	3.890
One Vehicle	Vehicle Driver	0.908	0.984	0.329	0.073	1.028	3.322
	In-Vehicle Person	1.050	1.216	0.453	0.200	1.233	4.152
	Transit	0.232	0.052	0.018	0.078	0.084	0.462
	Person	1.281	1.268	0.471	0.277	1.316	4.614
	School Bus	0.000	0.000	0.000	0.056	0.000	0.056
	Bicycle	0.026	0.010	0.021	0.019	0.013	0.091
	Walk	0.067	0.159	0.074	0.120	0.283	0.703
	Other	0.003	0.005	0.005	0.001	0.007	0.021
Total		1.378	1.442	0.571	0.473	1.620	5.484
Two Vehicles	Vehicle Driver	1.893	1.581	0.510	0.142	1.539	5.663
	In-Vehicle Person	2.038	1.976	0.805	0.431	1.890	7.139
	Transit	0.143	0.030	0.012	0.057	0.062	0.304
	Person	2.180	2.005	0.817	0.489	1.952	7.443
	School Bus	0.000	0.000	0.000	0.097	0.000	0.097
	Bicycle	0.022	0.018	0.030	0.040	0.020	0.131
	Walk	0.029	0.107	0.091	0.169	0.276	0.673
	Other	0.002	0.003	0.003	0.001	0.013	0.021
Total		2.234	2.133	0.941	0.796	2.261	8.366
Three Vehicles	Vehicle Driver	2.314	1.932	0.665	0.306	2.137	7.354
	In-Vehicle Person	2.494	2.415	0.958	0.764	2.555	9.187
	Transit	0.148	0.026	0.012	0.052	0.056	0.294
	Person	2.642	2.442	0.970	0.816	2.612	9.481
	School Bus	0.000	0.000	0.000	0.067	0.000	0.067
	Bicycle	0.011	0.016	0.028	0.046	0.018	0.118
	Walk	0.030	0.102	0.096	0.218	0.264	0.710
	Other	0.002	0.002	0.002	0.002	0.010	0.017
Total		2.685	2.562	1.096	1.148	2.903	10.394
Four++ Vehicles	Vehicle Driver	3.241	1.943	0.911	0.516	2.568	9.180
	In-Vehicle Person	3.527	2.320	1.338	0.828	3.081	11.094
	Transit	0.107	0.020	0.026	0.043	0.045	0.241
	Person	3.633	2.339	1.364	0.871	3.126	11.334
	School Bus	0.000	0.000	0.000	0.118	0.000	0.118
	Bicycle	0.040	0.013	0.038	0.035	0.029	0.154
	Walk	0.075	0.061	0.116	0.206	0.242	0.699
	Other	0.000	0.009	0.008	0.000	0.011	0.027
Total		3.748	2.422	1.526	1.229	3.408	12.333
Total HH	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.009	0.023
Total		1.991	1.891	0.827	0.744	2.100	7.553



**Table 3.4.2A**  
**1990 Regional Trips per Person by Vehicle Availability**

Vehicles Available	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Zero Vehicle	Vehicle Driver	0.046	0.044	0.012	0.009	0.075	0.186
	In-Vehicle Person	0.096	0.128	0.067	0.028	0.161	0.480
	Transit	0.244	0.239	0.076	0.148	0.162	0.869
	Person	0.340	0.367	0.142	0.176	0.324	1.349
	School Bus	0.000	0.000	0.000	0.020	0.000	0.020
	Bicycle	0.025	0.005	0.001	0.005	0.010	0.046
	Walk	0.103	0.228	0.056	0.076	0.220	0.683
	Other	0.006	0.011	0.003	0.003	0.001	0.025
Total		0.474	0.611	0.203	0.280	0.554	2.123
One Vehicle	Vehicle Driver	0.470	0.509	0.171	0.038	0.533	1.721
	In-Vehicle Person	0.544	0.630	0.235	0.103	0.639	2.151
	Transit	0.120	0.027	0.009	0.040	0.043	0.239
	Person	0.664	0.657	0.244	0.144	0.682	2.390
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.014	0.005	0.011	0.010	0.007	0.047
	Walk	0.035	0.082	0.039	0.062	0.147	0.364
	Other	0.002	0.003	0.002	0.000	0.003	0.011
Total		0.714	0.747	0.296	0.245	0.839	2.841
Two Vehicles	Vehicle Driver	0.659	0.550	0.177	0.049	0.536	1.971
	In-Vehicle Person	0.709	0.688	0.280	0.150	0.658	2.485
	Transit	0.050	0.010	0.004	0.020	0.022	0.106
	Person	0.759	0.698	0.284	0.170	0.680	2.591
	School Bus	0.000	0.000	0.000	0.034	0.000	0.034
	Bicycle	0.008	0.006	0.011	0.014	0.007	0.046
	Walk	0.010	0.037	0.032	0.059	0.096	0.234
	Other	0.001	0.001	0.001	0.000	0.004	0.007
Total		0.778	0.743	0.327	0.277	0.787	2.912
Three Vehicles	Vehicle Driver	0.676	0.565	0.194	0.090	0.625	2.150
	In-Vehicle Person	0.729	0.706	0.280	0.223	0.747	2.686
	Transit	0.043	0.008	0.003	0.015	0.016	0.086
	Person	0.772	0.714	0.284	0.238	0.763	2.772
	School Bus	0.000	0.000	0.000	0.020	0.000	0.020
	Bicycle	0.003	0.005	0.008	0.014	0.005	0.035
	Walk	0.009	0.030	0.028	0.064	0.077	0.208
	Other	0.001	0.001	0.001	0.000	0.003	0.005
Total		0.785	0.749	0.320	0.336	0.849	3.038
Four+ Vehicles	Vehicle Driver	0.833	0.499	0.234	0.133	0.660	2.359
	In-Vehicle Person	0.906	0.596	0.344	0.213	0.792	2.850
	Transit	0.027	0.005	0.007	0.011	0.012	0.062
	Person	0.933	0.601	0.351	0.224	0.803	2.912
	School Bus	0.000	0.000	0.000	0.030	0.000	0.030
	Bicycle	0.010	0.003	0.010	0.009	0.007	0.040
	Walk	0.019	0.016	0.030	0.053	0.062	0.180
	Other	0.000	0.002	0.002	0.000	0.003	0.007
Total		0.963	0.622	0.392	0.316	0.876	3.169
Total HH	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.183
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.009
Total		0.761	0.723	0.316	0.285	0.803	2.889

Table 3.5.1A

## 1990 Regional Trips per Household by Housing Structure Type

Structure Type	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Single Family	Vehicle Driver	1.791	1.617	0.534	0.195	1.614	5.751
	In-Vehicle Person	1.955	2.021	0.830	0.510	1.984	7.301
	Transit	0.159	0.053	0.020	0.079	0.077	0.388
	Person	2.115	2.075	0.850	0.589	2.061	7.689
	School Bus	0.000	0.000	0.000	0.092	0.000	0.092
	Bicycle	0.019	0.016	0.028	0.039	0.019	0.122
	Walk	0.041	0.123	0.091	0.184	0.277	0.716
	Other	0.001	0.006	0.003	0.001	0.013	0.024
	Total	2.176	2.220	0.972	0.906	2.369	8.643
Duplex	Vehicle Driver	1.403	0.957	0.402	0.132	1.153	4.047
	In-Vehicle Person	1.560	1.172	0.588	0.327	1.425	5.072
	Transit	0.246	0.104	0.036	0.083	0.106	0.575
	Person	1.806	1.276	0.624	0.410	1.531	5.647
	School Bus	0.000	0.000	0.000	0.051	0.000	0.051
	Bicycle	0.048	0.012	0.035	0.041	0.024	0.160
	Walk	0.064	0.165	0.100	0.143	0.290	0.761
	Other	0.005	0.006	0.024	0.005	0.005	0.044
	Total	1.922	1.458	0.783	0.650	1.849	6.663
Apartment	Vehicle Driver	1.020	0.711	0.297	0.083	0.846	2.956
	In-Vehicle Person	1.158	0.910	0.402	0.178	1.031	3.680
	Transit	0.318	0.142	0.049	0.114	0.132	0.755
	Person	1.476	1.052	0.450	0.293	1.163	4.435
	School Bus	0.000	0.000	0.000	0.035	0.000	0.035
	Bicycle	0.039	0.014	0.015	0.019	0.016	0.102
	Walk	0.121	0.243	0.084	0.129	0.328	0.904
	Other	0.009	0.006	0.003	0.002	0.003	0.023
	Total	1.644	1.314	0.552	0.479	1.510	5.499
Condo/ Townhm	Vehicle Driver	1.524	0.992	0.367	0.119	1.441	4.443
	In-Vehicle Person	1.653	1.237	0.528	0.251	1.673	5.342
	Transit	0.151	0.061	0.024	0.045	0.081	0.362
	Person	1.804	1.298	0.552	0.296	1.754	5.704
	School Bus	0.000	0.000	0.000	0.034	0.000	0.034
	Bicycle	0.018	0.002	0.028	0.003	0.008	0.059
	Walk	0.027	0.101	0.075	0.102	0.280	0.586
	Other	0.002	0.005	0.005	0.000	0.001	0.014
	Total	1.851	1.407	0.660	0.436	2.043	6.397
Mobile Home	Vehicle Driver	0.992	1.442	0.285	0.048	1.514	4.282
	In-Vehicle Person	1.078	1.688	0.382	0.128	1.672	4.949
	Transit	0.096	0.000	0.000	0.018	0.031	0.145
	Person	1.174	1.688	0.382	0.146	1.703	5.094
	School Bus	0.000	0.000	0.000	0.243	0.000	0.243
	Bicycle	0.011	0.001	0.000	0.000	0.041	0.053
	Walk	0.051	0.050	0.106	0.051	0.127	0.386
	Other	0.000	0.002	0.000	0.000	0.002	0.003
	Total	1.237	1.741	0.489	0.440	1.873	5.779
Hotel/ Motel	Vehicle Driver	0.371	0.000	0.000	0.000	0.000	0.371
	In-Vehicle Person	0.371	0.000	0.000	0.000	0.000	0.371
	Transit	0.240	0.268	0.268	0.000	0.000	0.775
	Person	0.611	0.268	0.268	0.000	0.000	1.147
	School Bus	0.000	0.000	0.000	0.000	0.000	0.000
	Bicycle	0.371	0.000	0.000	0.000	0.000	0.371
	Walk	0.000	0.536	0.536	0.000	0.536	1.609
	Other	0.000	0.000	0.000	0.000	0.000	0.000
	Total	0.982	0.804	0.804	0.000	0.536	3.127



**Table 3.5.2A**  
**1990 Regional Trips per Person by Housing Structure Type**

Structure Type	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Single Family	Vehicle Driver	0.608	0.549	0.181	0.066	0.548	1.951
	In-Vehicle Person	0.664	0.686	0.282	0.173	0.673	2.477
	Transit	0.054	0.018	0.007	0.027	0.026	0.132
	Person	0.718	0.704	0.288	0.200	0.699	2.609
	School Bus	0.000	0.000	0.000	0.031	0.000	0.031
	Bicycle	0.007	0.006	0.010	0.013	0.006	0.041
	Walk	0.014	0.042	0.031	0.062	0.094	0.243
	Other	0.000	0.002	0.001	0.000	0.004	0.008
Total		0.738	0.753	0.330	0.307	0.804	2.933
Duplex	Vehicle Driver	0.562	0.383	0.161	0.053	0.462	1.620
	In-Vehicle Person	0.624	0.469	0.235	0.131	0.571	2.030
	Transit	0.098	0.042	0.014	0.033	0.042	0.230
	Person	0.723	0.511	0.250	0.164	0.613	2.261
	School Bus	0.000	0.000	0.000	0.020	0.000	0.020
	Bicycle	0.019	0.005	0.014	0.017	0.009	0.064
	Walk	0.026	0.066	0.040	0.057	0.116	0.305
	Other	0.002	0.002	0.010	0.002	0.002	0.017
Total		0.770	0.584	0.313	0.260	0.740	2.667
Apartment	Vehicle Driver	0.507	0.353	0.148	0.041	0.420	1.469
	In-Vehicle Person	0.575	0.452	0.200	0.089	0.512	1.828
	Transit	0.158	0.070	0.024	0.057	0.066	0.375
	Person	0.733	0.523	0.224	0.145	0.578	2.203
	School Bus	0.000	0.000	0.000	0.018	0.000	0.018
	Bicycle	0.019	0.007	0.007	0.009	0.008	0.051
	Walk	0.060	0.121	0.042	0.064	0.163	0.449
	Other	0.004	0.003	0.002	0.001	0.002	0.012
Total		0.817	0.653	0.274	0.238	0.750	2.732
Condo/Townhm	Vehicle Driver	0.719	0.468	0.173	0.056	0.680	2.097
	In-Vehicle Person	0.780	0.584	0.249	0.119	0.790	2.522
	Transit	0.071	0.029	0.011	0.021	0.038	0.171
	Person	0.851	0.613	0.260	0.140	0.828	2.692
	School Bus	0.000	0.000	0.000	0.016	0.000	0.016
	Bicycle	0.009	0.001	0.013	0.002	0.004	0.028
	Walk	0.013	0.048	0.035	0.048	0.132	0.276
	Other	0.001	0.002	0.002	0.000	0.001	0.006
Total		0.874	0.664	0.311	0.206	0.964	3.019
Mobile Home	Vehicle Driver	0.512	0.744	0.147	0.025	0.781	2.208
	In-Vehicle Person	0.556	0.871	0.197	0.066	0.862	2.552
	Transit	0.050	0.000	0.000	0.009	0.016	0.075
	Person	0.606	0.871	0.197	0.075	0.878	2.627
	School Bus	0.000	0.000	0.000	0.125	0.000	0.125
	Bicycle	0.006	0.001	0.000	0.000	0.021	0.028
	Walk	0.026	0.026	0.055	0.026	0.066	0.199
	Other	0.000	0.001	0.000	0.000	0.001	0.002
Total		0.638	0.898	0.252	0.227	0.966	2.981
Hotel/Motel	Vehicle Driver	0.313	0.000	0.000	0.000	0.000	0.313
	In-Vehicle Person	0.313	0.000	0.000	0.000	0.000	0.313
	Transit	0.202	0.226	0.226	0.000	0.000	0.654
	Person	0.515	0.226	0.226	0.000	0.000	0.967
	School Bus	0.000	0.000	0.000	0.000	0.000	0.000
	Bicycle	0.313	0.000	0.000	0.000	0.000	0.313
	Walk	0.000	0.452	0.452	0.000	0.452	1.357
	Other	0.000	0.000	0.000	0.000	0.000	0.000
Total		0.828	0.678	0.678	0.000	0.452	2.637



**Table 3.6.1A**  
**1990 Regional Trips per Household by County of Residence**

County of Residence	Mode	Home - Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
San Francisco	Vehicle Driver	0.900	0.686	0.306	0.120	0.836	2.848
	In-Vehicle Person	1.068	0.846	0.422	0.212	1.036	3.584
	Transit	0.594	0.279	0.093	0.264	0.287	1.516
	Person	1.662	1.125	0.515	0.476	1.323	5.100
	School Bus	0.000	0.000	0.000	0.034	0.000	0.034
	Bicycle	0.027	0.003	0.002	0.005	0.014	0.052
	Walk	0.134	0.337	0.153	0.123	0.560	1.307
	Other	0.018	0.017	0.015	0.002	0.016	0.067
Total		1.841	1.483	0.685	0.639	1.913	6.560
San Mateo	Vehicle Driver	1.659	1.241	0.518	0.149	1.238	4.806
	In-Vehicle Person	1.839	1.502	0.770	0.367	1.495	5.973
	Transit	0.158	0.046	0.021	0.059	0.055	0.339
	Person	1.997	1.547	0.791	0.426	1.551	6.312
	School Bus	0.000	0.000	0.000	0.048	0.000	0.048
	Bicycle	0.039	0.013	0.043	0.032	0.015	0.141
	Walk	0.043	0.134	0.087	0.184	0.239	0.688
	Other	0.001	0.004	0.000	0.000	0.004	0.009
Total		2.080	1.698	0.920	0.690	1.808	7.197
Santa Clara	Vehicle Driver	1.956	1.367	0.504	0.156	1.456	5.439
	In-Vehicle Person	2.108	1.755	0.803	0.441	1.758	6.864
	Transit	0.056	0.023	0.014	0.034	0.029	0.155
	Person	2.164	1.778	0.816	0.474	1.788	7.020
	School Bus	0.000	0.000	0.000	0.084	0.000	0.084
	Bicycle	0.031	0.013	0.026	0.050	0.018	0.139
	Walk	0.045	0.074	0.067	0.178	0.123	0.486
	Other	0.001	0.002	0.005	0.001	0.003	0.013
Total		2.241	1.867	0.914	0.787	1.932	7.741
Alameda	Vehicle Driver	1.467	1.311	0.385	0.185	1.378	4.727
	In-Vehicle Person	1.622	1.653	0.563	0.431	1.705	5.974
	Transit	0.255	0.077	0.021	0.107	0.106	0.566
	Person	1.876	1.730	0.585	0.538	1.811	6.540
	School Bus	0.000	0.000	0.000	0.047	0.000	0.047
	Bicycle	0.029	0.026	0.020	0.030	0.024	0.129
	Walk	0.062	0.213	0.085	0.214	0.333	0.906
	Other	0.001	0.002	0.001	0.003	0.019	0.025
Total		1.968	1.971	0.690	0.832	2.187	7.647
Contra Costa	Vehicle Driver	1.613	1.636	0.527	0.152	1.623	5.552
	In-Vehicle Person	1.755	2.048	0.803	0.435	2.012	7.054
	Transit	0.164	0.041	0.021	0.046	0.064	0.336
	Person	1.919	2.089	0.825	0.481	2.076	7.389
	School Bus	0.000	0.000	0.000	0.069	0.000	0.069
	Bicycle	0.006	0.009	0.011	0.014	0.010	0.050
	Walk	0.028	0.066	0.065	0.117	0.305	0.581
	Other	0.000	0.005	0.001	0.003	0.004	0.014
Total		1.953	2.170	0.902	0.684	2.395	8.103

**Table 3.61A (continued)**  
**1990 Regional Trips per Household by County of Residence**

County of Residence	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Solano	Vehicle Driver	1.447	1.569	0.478	0.154	1.405	5.053
	In-Vehicle Person	1.624	2.048	0.683	0.471	1.667	6.493
	Transit	0.058	0.025	0.006	0.015	0.026	0.129
	Person	1.682	2.073	0.689	0.485	1.693	6.622
	School Bus	0.000	0.000	0.000	0.145	0.000	0.145
	Bicycle	0.020	0.005	0.016	0.035	0.006	0.082
	Walk	0.085	0.100	0.085	0.174	0.206	0.650
	Other	0.004	0.018	0.000	0.000	0.003	0.025
	Total	1.791	2.196	0.789	0.840	1.908	7.524
Napa	Vehicle Driver	1.495	1.651	0.482	0.225	1.791	5.644
	In-Vehicle Person	1.651	2.128	0.686	0.536	2.168	7.169
	Transit	0.040	0.012	0.007	0.002	0.027	0.088
	Person	1.691	2.140	0.693	0.538	2.195	7.256
	School Bus	0.000	0.000	0.000	0.060	0.000	0.060
	Bicycle	0.023	0.029	0.028	0.075	0.022	0.177
	Walk	0.048	0.158	0.151	0.218	0.230	0.805
	Other	0.004	0.002	0.006	0.000	0.010	0.022
	Total	1.765	2.329	0.878	0.891	2.458	8.320
Sonoma	Vehicle Driver	1.471	1.632	0.426	0.125	1.786	5.439
	In-Vehicle Person	1.575	1.957	0.721	0.352	2.229	6.833
	Transit	0.030	0.052	0.018	0.042	0.045	0.187
	Person	1.606	2.009	0.738	0.394	2.274	7.021
	School Bus	0.000	0.000	0.000	0.240	0.000	0.240
	Bicycle	0.023	0.016	0.061	0.036	0.024	0.160
	Walk	0.056	0.112	0.103	0.063	0.228	0.563
	Other	0.000	0.001	0.004	0.000	0.009	0.015
	Total	1.685	2.139	0.906	0.733	2.535	7.998
Marin	Vehicle Driver	1.581	1.259	0.572	0.172	1.694	5.278
	In-Vehicle Person	1.711	1.442	0.784	0.369	1.912	6.217
	Transit	0.175	0.041	0.014	0.029	0.075	0.334
	Person	1.886	1.483	0.798	0.398	1.986	6.551
	School Bus	0.000	0.000	0.000	0.056	0.000	0.056
	Bicycle	0.009	0.012	0.063	0.033	0.034	0.151
	Walk	0.032	0.101	0.071	0.088	0.357	0.649
	Other	0.002	0.003	0.004	0.000	0.006	0.015
	Total	1.930	1.599	0.936	0.574	2.383	7.423
Bay Area	Vehicle Driver	1.548	1.313	0.452	0.156	1.389	4.859
	In-Vehicle Person	1.701	1.643	0.682	0.393	1.695	6.115
	Transit	0.200	0.077	0.028	0.084	0.091	0.479
	Person	1.902	1.720	0.710	0.477	1.786	6.594
	School Bus	0.000	0.000	0.000	0.075	0.000	0.075
	Bicycle	0.025	0.014	0.025	0.031	0.018	0.113
	Walk	0.061	0.151	0.089	0.160	0.287	0.748
	Other	0.003	0.006	0.004	0.001	0.009	0.023
	Total	1.991	1.891	0.827	0.744	2.100	7.553

**Table 3.6.2A**  
**1990 Regional Trips per Person by County of Residence**

County of Residence	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
San Francisco	Vehicle Driver	0.393	0.299	0.134	0.052	0.365	1.242
	In-Vehicle Person	0.466	0.369	0.184	0.092	0.452	1.564
	Transit	0.259	0.122	0.041	0.115	0.125	0.662
	Person	0.725	0.491	0.225	0.208	0.577	2.225
	School Bus	0.000	0.000	0.000	0.015	0.000	0.015
	Bicycle	0.012	0.001	0.001	0.002	0.006	0.023
	Walk	0.058	0.147	0.067	0.054	0.244	0.570
	Other	0.008	0.008	0.006	0.001	0.007	0.029
	Total	0.803	0.647	0.299	0.279	0.835	2.862
San Mateo	Vehicle Driver	0.630	0.471	0.197	0.057	0.470	1.823
	In-Vehicle Person	0.698	0.570	0.292	0.139	0.567	2.266
	Transit	0.060	0.017	0.008	0.023	0.021	0.129
	Person	0.758	0.587	0.300	0.162	0.588	2.395
	School Bus	0.000	0.000	0.000	0.018	0.000	0.018
	Bicycle	0.015	0.005	0.016	0.012	0.006	0.053
	Walk	0.016	0.051	0.033	0.070	0.091	0.261
	Other	0.000	0.002	0.000	0.000	0.001	0.003
	Total	0.789	0.644	0.349	0.262	0.686	2.730
Santa Clara	Vehicle Driver	0.695	0.486	0.179	0.056	0.517	1.934
	In-Vehicle Person	0.749	0.624	0.285	0.157	0.625	2.440
	Transit	0.020	0.008	0.005	0.012	0.010	0.055
	Person	0.769	0.632	0.290	0.169	0.635	2.495
	School Bus	0.000	0.000	0.000	0.030	0.000	0.030
	Bicycle	0.011	0.005	0.009	0.018	0.006	0.049
	Walk	0.016	0.026	0.024	0.063	0.044	0.173
	Other	0.000	0.001	0.002	0.000	0.001	0.005
	Total	0.797	0.664	0.325	0.280	0.687	2.752
Alameda	Vehicle Driver	0.566	0.506	0.149	0.071	0.532	1.825
	In-Vehicle Person	0.626	0.638	0.217	0.167	0.658	2.306
	Transit	0.098	0.030	0.008	0.041	0.041	0.218
	Person	0.724	0.668	0.226	0.208	0.699	2.525
	School Bus	0.000	0.000	0.000	0.018	0.000	0.018
	Bicycle	0.011	0.010	0.008	0.012	0.009	0.050
	Walk	0.024	0.082	0.033	0.083	0.128	0.350
	Other	0.000	0.001	0.000	0.001	0.007	0.010
	Total	0.760	0.761	0.266	0.321	0.844	2.952
Contra Costa	Vehicle Driver	0.609	0.618	0.199	0.058	0.613	2.096
	In-Vehicle Person	0.662	0.773	0.303	0.164	0.759	2.662
	Transit	0.062	0.015	0.008	0.017	0.024	0.127
	Person	0.724	0.789	0.311	0.181	0.784	2.789
	School Bus	0.000	0.000	0.000	0.026	0.000	0.026
	Bicycle	0.002	0.004	0.004	0.005	0.004	0.019
	Walk	0.011	0.025	0.024	0.044	0.115	0.219
	Other	0.000	0.002	0.001	0.001	0.002	0.005
	Total	0.737	0.819	0.340	0.258	0.904	3.059



**Table 3.6.2A (continued)**  
**1990 Regional Trips per Person by County of Residence**

County of Residence	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Solano	Vehicle Driver	0.502	0.544	0.166	0.053	0.487	1.754
	In-Vehicle Person	0.564	0.711	0.237	0.163	0.579	2.253
	Transit	0.020	0.009	0.002	0.005	0.009	0.045
	Person	0.584	0.720	0.239	0.168	0.588	2.298
	School Bus	0.000	0.000	0.000	0.050	0.000	0.050
	Bicycle	0.007	0.002	0.005	0.012	0.002	0.028
	Walk	0.029	0.035	0.029	0.060	0.071	0.225
	Other	0.001	0.006	0.000	0.000	0.001	0.009
	Total	0.622	0.762	0.274	0.291	0.662	2.611
Napa	Vehicle Driver	0.588	0.649	0.189	0.088	0.704	2.219
	In-Vehicle Person	0.649	0.836	0.270	0.211	0.852	2.818
	Transit	0.016	0.005	0.003	0.001	0.011	0.034
	Person	0.665	0.841	0.272	0.211	0.863	2.853
	School Bus	0.000	0.000	0.000	0.024	0.000	0.024
	Bicycle	0.009	0.011	0.011	0.030	0.009	0.069
	Walk	0.019	0.062	0.059	0.086	0.091	0.317
	Other	0.001	0.001	0.002	0.000	0.004	0.009
	Total	0.694	0.916	0.345	0.350	0.966	3.271
Sonoma	Vehicle Driver	0.576	0.639	0.167	0.049	0.699	2.130
	In-Vehicle Person	0.617	0.766	0.282	0.138	0.873	2.676
	Transit	0.012	0.020	0.007	0.017	0.018	0.073
	Person	0.629	0.787	0.289	0.154	0.890	2.749
	School Bus	0.000	0.000	0.000	0.094	0.000	0.094
	Bicycle	0.009	0.006	0.024	0.014	0.009	0.063
	Walk	0.022	0.044	0.040	0.025	0.089	0.221
	Other	0.000	0.001	0.001	0.000	0.004	0.006
	Total	0.660	0.837	0.355	0.287	0.993	3.132
Marin	Vehicle Driver	0.678	0.540	0.245	0.074	0.727	2.263
	In-Vehicle Person	0.734	0.618	0.336	0.158	0.820	2.666
	Transit	0.075	0.018	0.006	0.012	0.032	0.143
	Person	0.809	0.636	0.342	0.171	0.852	2.809
	School Bus	0.000	0.000	0.000	0.024	0.000	0.024
	Bicycle	0.004	0.005	0.027	0.014	0.015	0.065
	Walk	0.014	0.043	0.030	0.038	0.153	0.279
	Other	0.001	0.001	0.002	0.000	0.003	0.007
	Total	0.827	0.686	0.401	0.246	1.022	3.183
Bay Area	Vehicle Driver	0.592	0.502	0.173	0.060	0.531	1.858
	In-Vehicle Person	0.651	0.629	0.261	0.150	0.648	2.339
	Transit	0.077	0.029	0.011	0.032	0.035	0.183
	Person	0.727	0.658	0.271	0.182	0.683	2.522
	School Bus	0.000	0.000	0.000	0.029	0.000	0.029
	Bicycle	0.010	0.005	0.009	0.012	0.007	0.043
	Walk	0.023	0.058	0.034	0.061	0.110	0.286
	Other	0.001	0.002	0.001	0.001	0.004	0.009
	Total	0.761	0.723	0.316	0.285	0.803	2.889

**Table 3.12.1A**  
**1990 Regional Trips per Household by Density-Based Area Type**

Area Type	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Regional Core	Vehicle Driver	0.236	0.198	0.161	0.041	0.157	0.793
	In-Vehicle Person	0.299	0.392	0.243	0.051	0.164	1.149
	Transit	0.448	0.355	0.166	0.039	0.202	1.210
	Person	0.747	0.747	0.409	0.089	0.366	2.358
	School Bus	0.000	0.000	0.000	0.085	0.000	0.085
	Bicycle	0.062	0.000	0.000	0.000	0.098	0.160
	Walk	0.341	0.368	0.081	0.150	0.464	1.404
	Other	0.025	0.000	0.000	0.000	0.006	0.030
	Total	1.175	1.115	0.490	0.325	0.934	4.038
Central Business District	Vehicle Driver	0.709	0.389	0.164	0.063	0.659	1.984
	In-Vehicle Person	0.886	0.530	0.247	0.146	0.837	2.646
	Transit	0.551	0.255	0.120	0.257	0.284	1.468
	Person	1.437	0.785	0.368	0.403	1.122	4.114
	School Bus	0.000	0.000	0.000	0.012	0.000	0.012
	Bicycle	0.038	0.000	0.000	0.003	0.008	0.049
	Walk	0.171	0.456	0.200	0.195	0.533	1.555
	Other	0.025	0.027	0.023	0.006	0.026	0.107
	Total	1.671	1.268	0.591	0.619	1.689	5.837
Urban Business District	Vehicle Driver	1.089	0.705	0.378	0.105	0.957	3.234
	In-Vehicle Person	1.271	0.883	0.509	0.221	1.126	4.009
	Transit	0.459	0.174	0.069	0.198	0.197	1.098
	Person	1.730	1.057	0.578	0.420	1.323	5.107
	School Bus	0.000	0.000	0.000	0.027	0.000	0.027
	Bicycle	0.057	0.016	0.040	0.049	0.016	0.178
	Walk	0.115	0.324	0.131	0.089	0.496	1.155
	Other	0.008	0.006	0.003	0.005	0.005	0.028
	Total	1.910	1.404	0.752	0.590	1.839	6.495
Urban	Vehicle Driver	1.351	1.062	0.357	0.162	0.978	3.910
	In-Vehicle Person	1.520	1.317	0.495	0.353	1.188	4.873
	Transit	0.330	0.132	0.042	0.152	0.152	0.807
	Person	1.850	1.448	0.536	0.505	1.341	5.680
	School Bus	0.000	0.000	0.000	0.045	0.000	0.045
	Bicycle	0.043	0.017	0.016	0.023	0.017	0.117
	Walk	0.073	0.207	0.080	0.195	0.308	0.863
	Other	0.004	0.008	0.007	0.000	0.005	0.024
	Total	1.971	1.680	0.639	0.768	1.671	6.729
Suburban	Vehicle Driver	1.719	1.490	0.501	0.164	1.561	5.436
	In-Vehicle Person	1.869	1.868	0.771	0.440	1.911	6.859
	Transit	0.121	0.040	0.013	0.046	0.051	0.272
	Person	1.991	1.908	0.784	0.486	1.962	7.131
	School Bus	0.000	0.000	0.000	0.083	0.000	0.083
	Bicycle	0.017	0.014	0.028	0.033	0.018	0.112
	Walk	0.043	0.101	0.080	0.161	0.237	0.622
	Other	0.001	0.004	0.002	0.001	0.010	0.019
	Total	2.051	2.027	0.895	0.765	2.228	7.966
Rural	Vehicle Driver	1.546	1.823	0.575	0.194	2.340	6.478
	In-Vehicle Person	1.619	2.188	0.929	0.424	2.822	7.982
	Transit	0.044	0.025	0.000	0.034	0.066	0.169
	Person	1.664	2.213	0.929	0.458	2.888	8.152
	School Bus	0.000	0.000	0.000	0.243	0.000	0.243
	Bicycle	0.000	0.007	0.002	0.034	0.003	0.046
	Walk	0.025	0.080	0.115	0.056	0.400	0.676
	Other	0.000	0.000	0.006	0.000	0.003	0.010
	Total	1.688	2.300	1.053	0.791	3.294	9.125

**Table 3.12.2A**  
**1990 Regional Trips per Person by Density-Based Area Type**

Area Type	Mode	Home-Based				Non-Home-Based	Total
		Work	Shop	Soc/Rec	School		
Regional Core	Vehicle Driver	0.132	0.111	0.090	0.023	0.088	0.444
	In-Vehicle Person	0.167	0.220	0.136	0.028	0.092	0.643
	Transit	0.251	0.198	0.093	0.022	0.113	0.677
	Person	0.418	0.418	0.229	0.050	0.205	1.320
	School Bus	0.000	0.000	0.000	0.048	0.000	0.048
	Bicycle	0.035	0.000	0.000	0.000	0.055	0.090
	Walk	0.191	0.206	0.045	0.084	0.259	0.786
	Other	0.014	0.000	0.000	0.000	0.003	0.017
	Total	0.658	0.624	0.274	0.182	0.522	2.260
Central Business District	Vehicle Driver	0.350	0.192	0.081	0.031	0.325	0.979
	In-Vehicle Person	0.437	0.261	0.122	0.072	0.413	1.306
	Transit	0.272	0.126	0.059	0.127	0.140	0.724
	Person	0.709	0.387	0.181	0.199	0.554	2.031
	School Bus	0.000	0.000	0.000	0.006	0.000	0.006
	Bicycle	0.019	0.000	0.000	0.001	0.004	0.024
	Walk	0.085	0.225	0.099	0.096	0.263	0.768
	Other	0.012	0.014	0.011	0.003	0.013	0.053
	Total	0.825	0.626	0.291	0.305	0.833	2.881
Urban Business District	Vehicle Driver	0.491	0.318	0.171	0.048	0.432	1.459
	In-Vehicle Person	0.573	0.398	0.230	0.100	0.508	1.809
	Transit	0.207	0.079	0.031	0.089	0.089	0.495
	Person	0.780	0.477	0.261	0.189	0.597	2.305
	School Bus	0.000	0.000	0.000	0.012	0.000	0.012
	Bicycle	0.026	0.007	0.018	0.022	0.007	0.080
	Walk	0.052	0.146	0.059	0.040	0.224	0.521
	Other	0.004	0.003	0.001	0.002	0.002	0.012
	Total	0.862	0.634	0.340	0.266	0.830	2.931
Urban	Vehicle Driver	0.530	0.416	0.140	0.064	0.383	1.533
	In-Vehicle Person	0.596	0.516	0.194	0.138	0.466	1.911
	Transit	0.129	0.052	0.016	0.060	0.060	0.316
	Person	0.725	0.568	0.210	0.198	0.526	2.227
	School Bus	0.000	0.000	0.000	0.018	0.000	0.018
	Bicycle	0.017	0.007	0.006	0.009	0.007	0.046
	Walk	0.029	0.081	0.031	0.076	0.121	0.338
	Other	0.002	0.003	0.003	0.000	0.002	0.010
	Total	0.773	0.659	0.251	0.301	0.655	2.638
Suburban	Vehicle Driver	0.632	0.548	0.184	0.060	0.574	1.998
	In-Vehicle Person	0.687	0.686	0.283	0.162	0.702	2.521
	Transit	0.045	0.015	0.005	0.017	0.019	0.100
	Person	0.731	0.701	0.288	0.179	0.721	2.620
	School Bus	0.000	0.000	0.000	0.031	0.000	0.031
	Bicycle	0.006	0.005	0.010	0.012	0.007	0.041
	Walk	0.016	0.037	0.029	0.059	0.087	0.229
	Other	0.000	0.001	0.001	0.000	0.004	0.007
	Total	0.754	0.745	0.329	0.281	0.819	2.927
Rural	Vehicle Driver	0.597	0.704	0.222	0.075	0.904	2.503
	In-Vehicle Person	0.626	0.845	0.359	0.164	1.090	3.084
	Transit	0.017	0.010	0.000	0.013	0.026	0.065
	Person	0.643	0.855	0.359	0.177	1.116	3.150
	School Bus	0.000	0.000	0.000	0.094	0.000	0.094
	Bicycle	0.000	0.003	0.001	0.013	0.001	0.018
	Walk	0.010	0.031	0.044	0.022	0.154	0.261
	Other	0.000	0.000	0.002	0.000	0.001	0.004
	Total	0.652	0.889	0.407	0.305	1.273	3.526



**Appendix 5.0**

**WEEKDAY 1990 COUNTY TRAVEL**

Table 5.3.1 A

1990 County-to-County Home-Based Work Trips by Mode (P/A Format)

Cnty of Prod	Cnty of Attr	HBW Vehicle Driver	HBW Vehicle Passenger	HBW Transit Passenger	HBW Bicycle Rider	HBW Walk Only	HBW Other Means	HBW TOTAL Means
SF	SF	188,178	43,396	165,869	7,581	40,411	5,360	450,795
SF	SM	42,261	3,372	4,394	0	98	936	51,061
SF	SC	11,353	1,427	618	0	0	0	13,398
SF	ALA	20,090	2,298	9,708	0	0	0	32,096
SF	CC	3,497	235	841	0	0	0	4,573
SF	SOL	0	0	0	0	0	0	0
SF	NAP	0	0	0	0	0	0	0
SF	SON	618	0	0	0	0	0	618
SF	MAR	8,780	377	834	0	0	0	9,991
SF	Tot.	274,777	51,105	182,264	7,581	40,509	6,296	562,532
SM	SF	65,356	17,357	27,759	0	635	0	111,107
SM	SM	257,763	22,039	6,614	5,058	9,618	0	301,092
SM	SC	56,292	3,698	2,954	1,929	0	0	64,873
SM	ALA	13,887	366	863	0	0	184	15,300
SM	CC	4,464	0	739	0	0	0	5,203
SM	SOL	2,261	0	0	0	0	0	2,261
SM	NAP	0	0	0	0	0	0	0
SM	SON	0	0	0	0	0	0	0
SM	MAR	2,749	506	0	0	0	0	3,255
SM	Tot.	402,772	43,966	38,929	6,987	10,253	184	503,091
SC	SF	7,954	1,021	3,733	0	0	0	12,708
SC	SM	37,749	2,722	964	0	0	0	41,435
SC	SC	934,696	66,875	23,235	16,739	23,611	1,351	1,066,507
SC	ALA	37,026	3,456	194	0	0	0	40,676
SC	CC	3,861	615	0	0	0	0	4,476
SC	SOL	0	0	0	0	0	0	0
SC	NAP	0	0	0	0	0	0	0
SC	SON	0	0	0	0	0	0	0
SC	MAR	0	0	0	0	0	0	0
SC	Tot.	1,021,286	74,689	28,126	16,739	23,611	1,351	1,165,802
ALA	SF	28,955	9,782	57,149	0	378	265	96,529
ALA	SM	35,762	2,826	3,430	0	0	0	42,018
ALA	SC	74,200	4,181	58,285	0	756	0	137,422
ALA	ALA	515,452	54,888	3,765	13,858	27,955	359	616,277
ALA	CC	43,279	1,999	0	0	0	0	45,278
ALA	SOL	2,035	0	0	0	0	0	2,035
ALA	NAP	224	0	0	0	0	0	224
ALA	SON	273	0	0	0	0	0	273
ALA	MAR	2,942	648	0	0	0	0	3,590
ALA	Tot.	703,122	74,324	122,629	13,858	29,089	624	943,646
CC	SF	20,114	8,121	35,951	0	0	0	64,186
CC	SM	8,729	1,927	811	0	0	0	11,467
CC	SC	10,506	0	0	0	0	0	10,506
CC	ALA	111,597	6,193	7,387	250	0	0	125,427
CC	CC	316,304	23,163	5,847	1,639	8,148	0	355,101
CC	SOL	9,036	940	0	0	0	0	9,976
CC	NAP	2,253	0	0	0	0	0	2,253
CC	SON	634	0	0	0	0	0	634
CC	MAR	6,228	667	0	0	0	0	6,895
CC	Tot.	485,401	41,011	49,996	1,889	8,148	0	586,445

Table 5.3.1 A (continued)

1990 County-to-County Home-Based Work Trips by Mode (P/A Format)

Cnty of Prod	Cnty of Attr	HBW Vehicle Driver	HBW Vehicle Passenger	HBW Transit Passenger	HBW Bicycle Rider	HBW Walk Only	HBW Other Means	HBW TOTAL Means
SOL	SF	7,122	2,811	3,462	0	0	0	13,395
SOL	SM	1,920	1,187	900	0	0	0	4,007
SOL	SC	444	0	0	0	0	0	444
SOL	ALA	11,025	985	933	0	0	0	12,943
SOL	CC	27,120	4,479	0	0	0	0	31,599
SOL	SOL	105,923	9,710	1,168	2,344	9,756	463	129,364
SOL	NAP	6,010	1,099	0	0	0	0	7,109
SOL	SON	1,870	0	0	0	0	0	1,870
SOL	MAR	2,435	0	0	0	0	0	2,435
SOL	Tot.	163,869	20,271	6,463	2,344	9,756	463	203,166
NAP	SF	665	0	113	0	0	0	778
NAP	SM	0	167	161	0	0	0	328
NAP	SC	149	0	0	0	0	0	149
NAP	ALA	187	0	167	0	0	0	354
NAP	CC	1,835	211	0	0	0	0	2,046
NAP	SOL	6,898	65	227	414	0	157	7,761
NAP	NAP	48,910	5,426	998	522	2,000	0	57,856
NAP	SON	2,422	270	0	0	0	0	2,692
NAP	MAR	646	317	0	0	0	0	963
NAP	Tot.	61,712	6,456	1,666	936	2,000	157	72,927
SON	SF	6,425	3,241	2,747	0	180	0	12,593
SON	SM	1,433	0	0	0	0	0	1,433
SON	SC	0	218	0	0	0	0	218
SON	ALA	2,209	0	0	0	0	0	2,209
SON	CC	452	493	0	0	0	0	945
SON	SOL	2,584	411	0	0	0	0	2,995
SON	NAP	5,087	296	0	0	305	0	5,688
SON	SON	184,423	9,501	1,738	2,746	8,204	0	206,612
SON	MAR	16,935	1,217	206	0	0	0	18,358
SON	Tot.	219,548	15,377	4,691	2,746	8,689	0	251,051
MAR	SF	27,230	3,994	14,092	0	0	216	45,532
MAR	SM	4,252	0	319	0	0	0	4,571
MAR	SC	1,220	0	0	0	0	0	1,220
MAR	ALA	7,680	210	170	0	0	0	8,060
MAR	CC	6,334	630	381	0	0	0	7,345
MAR	SOL	2,227	0	0	0	0	0	2,227
MAR	NAP	368	0	0	0	0	0	368
MAR	SON	3,830	0	0	0	0	0	3,830
MAR	MAR	96,661	7,385	2,034	875	3,215	0	110,170
MAR	Tot.	149,802	12,219	16,996	875	3,215	216	183,323
Tot.	SF	351,999	89,723	310,875	7,581	41,604	5,841	807,623
Tot.	SM	389,869	34,240	17,593	5,058	9,716	936	457,412
Tot.	SC	1,088,860	76,399	85,092	18,668	24,367	1,351	1,294,737
Tot.	ALA	719,153	68,396	23,187	14,108	27,955	543	853,342
Tot.	CC	407,146	31,825	7,808	1,639	8,148	0	456,566
Tot.	SOL	130,964	11,126	1,395	2,758	9,756	620	156,619
Tot.	NAP	62,852	6,821	998	522	2,305	0	73,498
Tot.	SON	194,070	9,771	1,738	2,746	8,204	0	216,529
Tot.	MAR	137,376	11,117	3,074	875	3,215	0	155,657
Tot.	Tot.	3,482,289	339,418	451,760	53,955	135,270	9,291	4,471,983



Table 5.3.2 A

## 1990 County-to-County Home-Based Shop (Other) Trips by Mode (P/A Format)

Cnty of Prod	Cnty of Attr	HBSH Vehicle Driver	HBSH Vehicle Passenger	HBSH Transit Passenger	HBSH Bicycle Rider	HBSH Walk Only	HBSH Other Means	HBSH TOTAL Means
SF	SF	186,152	43,273	80,512	1,010	104,595	4,747	420,289
SF	SM	18,490	4,666	2,775	0	0	0	25,931
SF	SC	1,602	0	0	0	0	0	1,602
SF	ALA	2,131	0	197	0	0	0	2,328
SF	CC	691	0	232	0	0	0	923
SF	SOL	314	0	0	0	0	0	314
SF	NAP	0	0	0	0	0	0	0
SF	SON	176	176	0	0	0	0	352
SF	MAR	973	0	326	0	0	0	1,299
SF	Tot.	210,529	48,115	84,042	1,010	104,595	4,747	453,038
SM	SF	16,770	4,389	5,444	0	211	0	26,814
SM	SM	259,487	52,096	4,663	1,752	32,958	1,447	352,403
SM	SC	19,355	4,415	775	985	212	0	25,742
SM	ALA	2,704	971	0	0	0	0	3,675
SM	CC	1,301	0	0	0	0	0	1,301
SM	SOL	0	0	0	0	0	0	0
SM	NAP	0	0	0	0	0	0	0
SM	SON	211	0	0	0	0	0	211
SM	MAR	716	0	0	0	0	0	716
SM	Tot.	300,544	61,871	10,882	2,737	33,381	1,447	410,862
SC	SF	2,056	324	0	0	0	0	2,380
SC	SM	11,438	1,773	232	0	0	0	13,443
SC	SC	698,206	184,337	10,316	6,993	38,682	2,262	940,796
SC	ALA	9,825	3,359	325	0	0	0	13,509
SC	CC	732	458	0	0	0	0	1,190
SC	SOL	0	0	0	0	0	0	0
SC	NAP	0	0	0	0	0	0	0
SC	SON	0	0	0	0	0	0	0
SC	MAR	0	0	0	0	0	0	0
SC	Tot.	722,257	190,251	10,873	6,993	38,682	2,262	971,318
ALA	SF	7,775	2,130	5,368	0	0	0	15,273
ALA	SM	4,408	4,458	421	0	0	0	9,287
ALA	SC	8,343	2,230	0	0	0	0	10,573
ALA	ALA	594,800	142,039	31,133	12,710	99,117	1,094	880,893
ALA	CC	20,979	5,046	139	0	589	0	26,753
ALA	SOL	735	969	0	0	0	0	1,704
ALA	NAP	0	0	0	0	0	0	0
ALA	SON	0	0	0	0	0	0	0
ALA	MAR	554	0	0	0	0	0	554
ALA	Tot.	637,594	156,872	37,061	12,710	99,706	1,094	945,037
CC	SF	3,269	1,224	8,245	0	0	0	12,738
CC	SM	2,772	0	0	0	0	0	2,772
CC	SC	2,454	1,118	0	0	0	0	3,572
CC	ALA	43,847	9,699	799	0	0	0	54,345
CC	CC	450,181	92,697	3,360	2,328	20,055	1,714	570,335
CC	SOL	4,265	1,022	0	0	0	0	5,287
CC	NAP	190	0	0	0	0	0	190
CC	SON	714	218	0	0	0	0	932
CC	MAR	1,398	0	0	0	0	0	1,398
CC	Tot.	509,090	105,978	12,404	2,328	20,055	1,714	651,569

Table 5.3.2 A (continued)

## 1990 County-to-County Home-Based Shop (Other) Trips by Mode (P/A Format)

Cnty of Prod	Cnty of Attr	HBSH Vehicle Driver	HBSH Vehicle Passenger	HBSH Transit Passenger	HBSH Bicycle Rider	HBSH Walk Only	HBSH Other Means	HBSH TOTAL Means
SOL	SF	1,233	551	401	0	0	0	2,185
SOL	SM	208	0	0	0	0	0	208
SOL	SC	215	0	0	0	0	0	215
SOL	ALA	1,365	589	0	0	0	0	1,954
SOL	CC	6,842	724	0	0	0	0	7,566
SOL	SOL	168,122	49,783	2,314	538	11,211	2,065	234,033
SOL	NAP	1,002	343	0	0	0	0	1,345
SOL	SON	445	284	0	0	0	0	729
SOL	MAR	875	0	0	0	0	0	875
SOL	Tot.	180,307	52,274	2,715	538	11,211	2,065	249,110
NAP	SF	245	0	0	0	0	0	245
NAP	SM	303	908	0	0	0	0	1,211
NAP	SC	0	0	0	0	0	0	0
NAP	ALA	487	246	0	0	0	0	733
NAP	CC	813	0	0	0	0	0	813
NAP	SOL	2,927	1,468	0	0	0	0	4,395
NAP	NAP	63,153	15,709	454	1,112	6,697	140	87,265
NAP	SON	1,408	64	0	0	0	0	1,472
NAP	MAR	82	0	0	0	0	0	82
NAP	Tot.	69,418	18,395	454	1,112	6,697	140	96,216
SON	SF	2,453	544	588	0	0	0	3,585
SON	SM	182	0	0	0	0	0	182
SON	SC	220	0	0	0	0	0	220
SON	ALA	0	0	0	0	0	0	0
SON	CC	0	0	0	0	0	0	0
SON	SOL	777	0	0	0	0	0	777
SON	NAP	1,779	497	0	0	0	0	2,276
SON	SON	235,341	44,816	6,807	2,229	16,833	205	306,231
SON	MAR	4,532	862	0	0	0	0	5,394
SON	Tot.	245,284	46,719	7,395	2,229	16,833	205	318,665
MAR	SF	4,432	904	897	0	0	0	6,233
MAR	SM	378	0	226	0	0	0	604
MAR	SC	0	0	0	0	0	0	0
MAR	ALA	2,053	365	0	0	0	0	2,418
MAR	CC	1,141	0	0	0	0	0	1,141
MAR	SOL	605	605	0	0	0	0	1,210
MAR	NAP	0	0	0	0	0	0	0
MAR	SON	2,713	0	0	0	0	0	2,713
MAR	MAR	110,994	13,836	2,814	1,257	8,621	107	137,629
MAR	Tot.	122,316	15,710	3,937	1,257	8,621	107	151,948
Tot.	SF	224,385	53,339	101,455	1,010	104,806	4,747	489,742
Tot.	SM	297,666	63,901	8,317	1,752	32,958	1,447	406,041
Tot.	SC	730,395	192,100	11,091	7,978	38,894	2,262	982,720
Tot.	ALA	657,212	157,268	32,454	12,710	99,117	1,094	959,855
Tot.	CC	482,680	98,925	3,731	2,328	20,644	1,714	610,022
Tot.	SOL	177,745	53,847	2,314	538	11,211	2,065	247,720
Tot.	NAP	66,124	16,549	454	1,112	6,697	140	91,076
Tot.	SON	241,008	45,558	6,807	2,229	16,833	205	312,640
Tot.	MAR	120,124	14,698	3,140	1,257	8,621	107	147,947
Tot.	Tot.	2,997,339	696,185	169,763	30,914	339,781	13,781	4,247,763

Table 5.3.3 A

## 1990 County-to-County Home-Based Social/Recreation Trips by Mode (P/A)

Cnty of Prod	Cnty of Attr	HBSR Vehicle Driver	HBSR Vehicle Passenger	HBSR Transit Passenger	HBSR Bicycle Rider	HBSR Walk Only	HBSR Other Means	HBSR TOTAL Means
SF	SF	78,650	29,661	25,758	279	45,617	3,956	183,921
SF	SM	8,854	2,949	789	0	0	0	12,592
SF	SC	908	0	0	0	0	0	908
SF	ALA	787	1,490	1,388	0	0	0	3,665
SF	CC	1,347	732	249	0	0	0	2,328
SF	SOL	0	0	0	0	0	368	368
SF	NAP	535	305	0	0	0	0	840
SF	SON	0	0	0	0	0	0	0
SF	MAR	2,796	802	0	461	0	593	4,652
SF	Tot.	93,877	35,939	28,184	740	45,617	4,917	209,274
SM	SF	16,042	9,859	2,061	0	344	0	28,306
SM	SM	99,338	44,513	2,540	7,461	20,222	0	174,074
SM	SC	8,454	3,904	401	2,504	365	0	15,628
SM	ALA	2,280	648	172	0	0	0	3,100
SM	CC	336	0	0	0	0	0	336
SM	SOL	229	229	0	0	0	0	458
SM	NAP	0	0	0	0	0	0	0
SM	SON	0	0	0	0	0	0	0
SM	MAR	416	337	0	0	0	0	753
SM	Tot.	127,095	59,490	5,174	9,965	20,931	0	222,655
SC	SF	3,816	2,321	841	0	0	213	7,191
SC	SM	6,974	4,224	0	0	0	0	11,198
SC	SC	249,416	139,076	3,504	13,571	34,684	2,936	443,187
SC	ALA	5,840	4,189	2,258	0	715	0	13,002
SC	CC	418	0	0	0	0	0	418
SC	SOL	0	0	0	0	0	0	0
SC	NAP	327	0	0	0	0	0	327
SC	SON	0	0	0	0	0	0	0
SC	MAR	0	0	0	0	0	0	0
SC	Tot.	266,791	149,810	6,603	13,571	35,399	3,149	475,323
ALA	SF	6,224	3,346	3,279	0	0	0	12,849
ALA	SM	3,326	1,746	0	0	0	0	5,072
ALA	SC	7,196	3,705	0	0	229	0	11,130
ALA	ALA	161,103	67,165	5,622	8,521	39,802	824	283,037
ALA	CC	9,734	6,098	0	231	0	0	16,063
ALA	SOL	905	459	0	0	0	0	1,364
ALA	NAP	249	249	0	0	0	0	498
ALA	SON	0	0	0	0	0	0	0
ALA	MAR	439	299	0	0	0	0	738
ALA	Tot.	189,176	83,067	8,901	8,752	40,031	824	330,751
CC	SF	4,668	2,699	2,634	0	0	0	10,001
CC	SM	558	399	0	0	0	0	957
CC	SC	573	363	0	0	0	0	936
CC	ALA	18,269	6,384	1,447	0	528	0	26,628
CC	CC	140,636	59,792	2,376	3,093	20,832	718	227,447
CC	SOL	1,922	567	0	0	0	0	2,489
CC	NAP	405	0	0	0	0	0	405
CC	SON	515	0	0	0	0	0	515
CC	MAR	481	884	0	0	0	0	1,365
CC	Tot.	168,027	71,088	6,457	3,093	21,360	718	270,743



Table 5.3.3 A (continued)

## 1990 County-to-County Home-Based Social/Recreation Trips by Mode (P/A)

Cnty of Prod	Cnty of Attr	HBSR Vehicle Driver	HBSR Vehicle Passenger	HBSR Transit Passenger	HBSR Bicycle Rider	HBSR Walk Only	HBSR Other Means	HBSR TOTAL Means
SOL	SF	240	359	0	366	0	0	965
SOL	SM	321	0	0	0	0	0	321
SOL	SC	0	0	0	0	0	0	0
SOL	ALA	1,825	974	0	0	0	0	2,799
SOL	CC	1,890	813	0	0	0	0	2,703
SOL	SOL	49,641	17,902	670	1,108	9,920	0	79,241
SOL	NAP	1,190	757	0	0	0	0	1,947
SOL	SON	507	796	0	0	0	0	1,303
SOL	MAR	189	0	0	0	0	0	189
SOL	Tot.	55,803	21,601	670	1,474	9,920	0	89,468
NAP	SF	277	0	0	0	0	0	277
NAP	SM	0	0	0	0	0	0	0
NAP	SC	0	0	0	0	0	0	0
NAP	ALA	177	65	0	0	0	0	242
NAP	CC	844	0	0	0	0	0	844
NAP	SOL	765	166	0	0	0	0	931
NAP	NAP	17,379	7,845	282	889	6,403	262	33,060
NAP	SON	306	380	0	0	0	0	686
NAP	MAR	218	0	0	0	0	0	218
NAP	Tot.	19,966	8,456	282	889	6,403	262	36,258
SON	SF	1,061	1,018	885	0	0	0	2,964
SON	SM	0	186	0	0	0	0	186
SON	SC	1,220	3,659	0	0	0	0	4,879
SON	ALA	0	0	0	0	0	0	0
SON	CC	223	223	0	0	0	0	446
SON	SOL	0	183	0	0	0	0	183
SON	NAP	251	251	0	0	0	0	502
SON	SON	58,823	36,028	1,900	8,807	14,092	598	120,248
SON	MAR	3,937	1,683	0	0	0	0	5,620
SON	Tot.	65,515	43,231	2,785	8,807	14,092	598	135,028
MAR	SF	5,007	871	179	0	0	0	6,057
MAR	SM	334	0	0	0	0	0	334
MAR	SC	0	0	0	0	0	0	0
MAR	ALA	407	0	0	0	0	0	407
MAR	CC	1,087	0	0	0	0	0	1,087
MAR	SOL	700	170	0	0	0	0	870
MAR	NAP	0	0	0	0	0	0	0
MAR	SON	2,402	1,436	0	0	0	0	3,838
MAR	MAR	47,100	16,558	1,233	3,736	7,307	400	76,334
MAR	Tot.	57,037	19,035	1,412	3,736	7,307	400	88,927
Tot.	SF	115,985	50,134	35,637	645	45,961	4,169	252,531
Tot.	SM	119,705	54,017	3,329	7,461	20,222	0	204,734
Tot.	SC	267,767	150,707	3,905	16,075	35,278	2,936	476,668
Tot.	ALA	190,688	80,915	10,887	8,521	41,045	824	332,880
Tot.	CC	156,515	67,658	2,625	3,324	20,832	718	251,672
Tot.	SOL	54,162	19,676	670	1,108	9,920	368	85,904
Tot.	NAP	20,336	9,407	282	889	6,403	262	37,579
Tot.	SON	62,553	38,640	1,900	8,807	14,092	598	126,590
Tot.	MAR	55,576	20,563	1,233	4,197	7,307	993	89,869
Tot.	Tot.	1,043,287	491,717	60,468	51,027	201,060	10,868	1,858,427

**Table 5.3.4 A**  
**1990 County-to-County Home-Based School Trips by Mode (P/A)**

Cnty of Prod	Cnty of Attr	HBSch Vehicle Driver	HBSch Vehicle Passenger	HBSch Transit Passenger	HBSch Bicycle Rider	HBSch Walk Only	HBSch Other Means	HBSch School Bus	HBSch TOTAL Means
SF	SF	32,661	25,262	80,816	1,026	33,475	551	8,078	181,869
SF	SM	2,908	2,039	398	0	783	0	252	6,380
SF	SC	700	0	0	0	0	0	0	700
SF	ALA	2,524	617	2,327	0	0	0	0	5,468
SF	CC	0	0	0	0	0	0	0	0
SF	SOL	0	0	0	0	0	0	0	0
SF	NAP	0	0	0	0	0	0	0	0
SF	SON	0	0	0	0	0	0	0	0
SF	MAR	970	0	0	0	0	0	0	970
SF	Tot.	39,763	27,918	83,541	1,026	34,258	551	8,330	195,387
SM	SF	3,904	3,994	3,823	0	0	0	0	11,721
SM	SM	30,079	47,195	10,530	5,691	42,843	0	11,715	148,053
SM	SC	1,979	870	786	768	0	0	0	4,403
SM	ALA	1,362	0	0	0	0	0	0	1,362
SM	CC	234	981	0	0	0	0	0	1,215
SM	SOL	0	0	0	0	0	0	0	0
SM	NAP	0	0	0	0	0	0	0	0
SM	SON	0	0	0	0	0	0	0	0
SM	MAR	0	0	0	0	0	0	0	0
SM	Tot.	37,558	53,040	15,139	6,459	42,843	0	11,715	166,754
SC	SF	517	0	0	0	0	0	233	750
SC	SM	402	274	274	0	0	0	0	950
SC	SC	86,092	146,435	17,082	26,463	89,189	549	41,306	407,116
SC	ALA	532	0	0	0	0	0	0	532
SC	CC	0	0	0	0	0	0	0	0
SC	SOL	0	0	0	0	0	0	0	0
SC	NAP	0	0	0	0	0	0	0	0
SC	SON	0	0	0	0	0	0	0	0
SC	MAR	0	0	0	0	0	0	0	0
SC	Tot.	87,543	146,709	17,356	26,463	89,189	549	41,539	409,348
ALA	SF	2,195	0	4,782	0	0	0	0	6,977
ALA	SM	0	0	304	0	0	0	0	304
ALA	SC	3,676	620	0	0	0	0	0	4,296
ALA	ALA	85,796	110,105	48,234	14,861	96,078	1,391	21,463	377,928
ALA	CC	3,170	4,585	0	0	1,047	0	426	9,228
ALA	SOL	0	0	0	0	0	0	0	0
ALA	NAP	0	0	0	0	0	0	0	0
ALA	SON	0	0	0	0	0	0	0	0
ALA	MAR	0	0	0	0	0	0	0	0
ALA	Tot.	94,837	115,310	53,320	14,861	97,125	1,391	21,889	398,733
CC	SF	0	638	2,240	0	0	0	0	2,878
CC	SM	0	0	0	0	0	0	0	0
CC	SC	0	0	0	0	0	0	0	0
CC	ALA	10,494	3,565	1,644	307	0	0	283	16,293
CC	CC	42,459	72,885	11,144	3,293	34,691	418	21,204	186,094
CC	SOL	0	0	0	0	0	0	0	0
CC	NAP	0	0	0	0	0	0	0	0
CC	SON	0	0	0	0	0	0	0	0
CC	MAR	0	0	0	0	0	0	0	0
CC	Tot.	52,953	77,088	15,028	3,600	34,691	418	21,487	205,265

**Table 5.3.4 A (continued)**  
**1990 County-to-County Home-Based School Trips by Mode (P/A)**

Cnty of Prod	Cnty of Attr	HBSch Vehicle Driver	HBSch Vehicle Passenger	HBSch Transit Passenger	HBSch Bicycle Rider	HBSch Walk Only	HBSch Other Means	HBSch School Bus	HBSch TOTAL Means
SOL	SF	304	304	0	0	0	0	0	608
SOL	SM	0	0	0	0	0	0	0	0
SOL	SC	0	0	0	0	0	0	0	0
SOL	ALA	0	0	0	0	0	0	0	0
SOL	CC	2,082	428	0	0	0	0	0	2,510
SOL	SOL	14,287	31,095	1,845	4,458	19,209	0	16,012	86,906
SOL	NAP	1,123	0	0	0	0	0	0	1,123
SOL	SON	620	620	0	0	0	0	0	1,240
SOL	MAR	0	2,870	0	0	0	0	0	2,870
SOL	Tot.	18,416	35,317	1,845	4,458	19,209	0	16,012	95,257
NAP	SF	175	0	0	0	0	0	0	175
NAP	SM	0	0	0	0	0	0	0	0
NAP	SC	0	0	0	0	0	0	0	0
NAP	ALA	0	0	0	0	0	0	0	0
NAP	CC	0	0	0	0	0	0	0	0
NAP	SOL	341	0	0	0	0	0	0	341
NAP	NAP	9,657	12,651	77	2,921	8,636	0	2,343	36,285
NAP	SON	0	0	0	0	0	0	0	0
NAP	MAR	0	0	0	0	0	0	0	0
NAP	Tot.	10,173	12,651	77	2,921	8,636	0	2,343	36,801
SON	SF	0	0	707	0	0	0	0	707
SON	SM	0	0	0	0	0	0	0	0
SON	SC	270	270	0	0	0	0	0	540
SON	ALA	0	0	0	0	0	0	0	0
SON	CC	0	0	0	0	0	0	0	0
SON	SOL	0	0	0	0	0	0	0	0
SON	NAP	0	0	0	0	0	0	0	0
SON	SON	18,869	31,980	6,453	5,152	10,849	0	34,704	108,007
SON	MAR	0	0	0	0	0	0	0	0
SON	Tot.	19,139	32,250	7,160	5,152	10,849	0	34,704	109,254
MAR	SF	0	0	594	0	0	0	0	594
MAR	SM	0	0	0	0	0	0	0	0
MAR	SC	0	0	0	0	297	0	0	297
MAR	ALA	273	0	0	0	0	0	0	273
MAR	CC	812	0	0	0	0	0	0	812
MAR	SOL	0	0	0	0	0	0	0	0
MAR	NAP	0	0	0	0	0	0	0	0
MAR	SON	2,995	0	0	0	0	0	1,013	4,008
MAR	MAR	13,372	18,516	2,335	3,961	5,705	0	4,706	48,595
MAR	Tot.	17,452	18,516	2,929	3,961	6,002	0	5,719	54,579
Tot.	SF	39,756	30,198	92,962	1,026	33,475	551	8,311	206,279
Tot.	SM	33,389	49,508	11,506	5,691	43,626	0	11,967	155,687
Tot.	SC	92,717	148,195	17,868	27,231	89,486	549	41,306	417,352
Tot.	ALA	100,981	114,287	52,205	15,168	96,078	1,391	21,746	401,856
Tot.	CC	48,757	78,879	11,144	3,293	35,738	418	21,630	199,859
Tot.	SOL	14,628	31,095	1,845	4,458	19,209	0	16,012	87,247
Tot.	NAP	10,780	12,651	77	2,921	8,636	0	2,343	37,408
Tot.	SON	22,484	32,600	6,453	5,152	10,849	0	35,717	113,255
Tot.	MAR	14,342	21,386	2,335	3,961	5,705	0	4,706	52,435
Tot.	Tot.	377,834	518,799	196,395	68,901	342,802	2,909	163,738	1,671,378



Table 5.3.5 A

## 1990 County-to-County Non-Home-Based Trips by Mode (P/A Format)

Cnty of Orig	Cnty of Dest	NHB Vehicle Driver	NHB Vehicle Passenger	NHB Transit Passenger	NHB Bicycle Rider	NHB Walk Only	NHB Other Means	NHB TOTAL Means
SF	SF	231,028	61,975	91,992	3,679	282,055	7,605	678,334
SF	SM	24,312	6,625	2,377	0	0	98	33,412
SF	SC	3,276	195	0	0	0	0	3,471
SF	ALA	14,714	2,963	9,693	0	0	0	27,370
SF	CC	4,495	1,457	4,472	0	416	0	10,840
SF	SOL	1,655	288	0	0	0	373	2,316
SF	NAP	151	0	0	0	0	0	151
SF	SON	1,462	963	279	0	0	0	2,704
SF	MAR	7,844	1,629	1,895	0	190	0	11,558
SF	Tot.	288,937	76,095	110,708	3,679	282,661	8,076	770,156
SM	SF	25,239	3,558	2,367	0	178	151	31,493
SM	SM	243,447	49,632	3,570	3,719	32,067	443	332,878
SM	SC	27,111	2,534	224	204	0	414	30,487
SM	ALA	7,095	1,786	172	0	0	0	9,053
SM	CC	1,655	349	0	0	0	0	2,004
SM	SOL	221	280	0	0	0	0	501
SM	NAP	0	0	0	0	0	0	0
SM	SON	212	0	0	0	0	0	212
SM	MAR	1,250	80	0	0	0	0	1,330
SM	Tot.	306,230	58,219	6,333	3,923	32,245	1,008	407,958
SC	SF	7,495	1,040	0	0	0	424	8,959
SC	SM	26,516	3,176	0	0	411	414	30,517
SC	SC	745,590	150,245	11,432	9,045	71,088	4,306	991,706
SC	ALA	22,025	2,282	983	0	0	0	25,290
SC	CC	3,401	213	0	0	0	0	3,614
SC	SOL	273	0	0	0	0	0	273
SC	NAP	116	0	0	0	0	0	116
SC	SON	236	236	0	0	0	0	472
SC	MAR	681	0	0	0	240	0	921
SC	Tot.	806,333	157,192	12,415	9,045	71,739	5,144	1,061,868
ALA	SF	13,315	2,384	5,914	373	0	0	21,986
ALA	SM	8,294	1,357	0	0	0	0	9,651
ALA	SC	18,628	1,274	0	0	0	0	19,902
ALA	ALA	614,665	135,488	28,189	11,701	130,509	14,585	935,137
ALA	CC	47,618	6,341	1,495	228	323	258	56,263
ALA	SOL	3,308	205	0	0	0	0	3,513
ALA	NAP	481	0	0	0	0	0	481
ALA	SON	904	0	0	0	0	0	904
ALA	MAR	1,966	172	0	0	0	0	2,138
ALA	Tot.	709,179	147,221	35,598	12,302	130,832	14,843	1,049,975
CC	SF	3,679	845	2,091	0	0	0	6,615
CC	SM	2,458	167	0	0	0	0	2,625
CC	SC	3,445	1,142	0	0	0	0	4,587
CC	ALA	40,841	6,239	2,594	0	323	0	49,997
CC	CC	366,248	84,558	2,338	1,357	45,665	4,179	504,345
CC	SOL	4,520	875	0	0	0	0	5,395
CC	NAP	378	61	0	0	0	0	439
CC	SON	1,225	0	0	0	0	0	1,225
CC	MAR	1,667	642	0	0	0	0	2,309
CC	Tot.	424,461	94,529	7,023	1,357	45,988	4,179	577,537

Table 5.3.5 A (continued)

## 1990 County-to-County Non-Home-Based Trips by Mode (P/A Format)

Cnty of Orig	Cnty of Dest	NHB Vehicle Driver	NHB Vehicle Passenger	NHB Transit Passenger	NHB Bicycle Rider	NHB Walk Only	NHB Other Means	NHB TOTAL Means
SOL	SF	898	0	0	0	0	373	1,271
SOL	SM	0	280	0	0	0	0	280
SOL	SC	435	0	0	0	0	0	435
SOL	ALA	1,710	0	0	0	0	0	1,710
SOL	CC	4,747	636	0	0	190	349	5,922
SOL	SOL	118,325	24,650	0	692	19,575	2,425	165,667
SOL	NAP	3,427	461	0	0	0	0	3,888
SOL	SON	454	0	0	0	0	0	454
SOL	MAR	1,472	551	0	0	0	0	2,023
SOL	Tot.	131,468	26,578	0	692	19,765	3,147	181,650
NAP	SF	98	0	0	0	0	0	98
NAP	SM	0	0	0	0	0	0	0
NAP	SC	116	0	0	0	0	0	116
NAP	ALA	1,436	64	0	0	0	0	1,500
NAP	CC	653	0	0	0	0	0	653
NAP	SOL	4,239	471	0	0	0	0	4,710
NAP	NAP	70,694	11,650	834	822	8,953	261	93,214
NAP	SON	736	290	0	0	306	0	1,332
NAP	MAR	196	0	0	0	0	0	196
NAP	Tot.	78,168	12,475	834	822	9,259	261	101,819
SON	SF	2,478	548	0	0	0	0	3,026
SON	SM	0	0	0	0	0	0	0
SON	SC	0	0	0	0	0	0	0
SON	ALA	834	0	0	0	0	0	834
SON	CC	234	0	0	0	0	0	234
SON	SOL	882	288	0	0	0	0	1,170
SON	NAP	1,402	586	0	0	0	0	1,988
SON	SON	248,275	56,037	1,222	3,153	27,657	3,967	340,311
SON	MAR	3,742	691	0	0	0	303	4,736
SON	Tot.	257,847	58,150	1,222	3,153	27,657	4,270	352,299
MAR	SF	7,455	1,912	808	0	190	0	10,365
MAR	SM	403	417	0	0	0	0	820
MAR	SC	1,072	0	0	0	0	0	1,072
MAR	ALA	1,463	384	376	0	0	0	2,223
MAR	CC	1,534	308	0	0	0	0	1,842
MAR	SOL	536	551	0	0	0	0	1,087
MAR	NAP	450	0	0	0	0	0	450
MAR	SON	4,383	508	504	0	219	303	5,917
MAR	MAR	142,640	17,966	2,800	2,529	23,400	786	190,121
MAR	Tot.	159,936	22,046	4,488	2,529	23,809	1,089	213,897
Tot.	SF	291,685	72,262	103,172	4,052	282,423	8,553	762,147
Tot.	SM	305,430	61,654	5,947	3,719	32,478	955	410,183
Tot.	SC	799,673	155,390	11,656	9,249	71,088	4,720	1,051,776
Tot.	ALA	704,783	149,206	42,007	11,701	130,832	14,585	1,053,114
Tot.	CC	430,585	93,862	8,305	1,585	46,594	4,786	585,717
Tot.	SOL	133,959	27,608	0	692	19,575	2,798	184,632
Tot.	NAP	77,099	12,758	834	822	8,953	261	100,727
Tot.	SON	257,887	58,034	2,005	3,153	28,182	4,270	353,531
Tot.	MAR	161,458	21,731	4,695	2,529	23,830	1,089	215,332
Tot.	Tot.	3,162,559	652,505	178,621	37,502	643,955	42,017	4,717,159

**Table 5.3.6 A**  
**1990 County-to-County TOTAL Trips by Mode (P/A Format)**

Cnty of Prod	Cnty of Attr	TOTAL Vehicle Driver	TOTAL Vehicle Passenger	TOTAL Transit Passenger	TOTAL Bicycle Rider	TOTAL Walk Only	TOTAL Other Means	TOTAL TOTAL Means
SF	SF	716,669	203,567	444,947	13,575	506,153	30,297	1,915,208
SF	SM	96,825	19,651	10,733	0	881	1,286	129,376
SF	SC	17,839	1,622	618	0	0	0	20,079
SF	ALA	40,246	7,368	23,313	0	0	0	70,927
SF	CC	10,030	2,424	5,794	0	416	0	18,664
SF	SOL	1,969	288	0	0	0	741	2,998
SF	NAP	686	305	0	0	0	0	991
SF	SON	2,256	1,139	279	0	0	0	3,674
SF	MAR	21,363	2,808	3,055	461	190	593	28,470
SF	Tot.	907,883	239,172	488,739	14,036	507,640	32,917	2,190,387
SM	SF	127,311	39,157	41,454	0	1,368	151	209,441
SM	SM	890,114	215,475	27,917	23,681	137,708	13,605	1,308,500
SM	SC	113,191	15,421	5,140	6,390	577	414	141,133
SM	ALA	27,328	3,771	1,207	0	0	184	32,490
SM	CC	7,990	1,330	739	0	0	0	10,059
SM	SOL	2,711	509	0	0	0	0	3,220
SM	NAP	0	0	0	0	0	0	0
SM	SON	423	0	0	0	0	0	423
SM	MAR	5,131	923	0	0	0	0	6,054
SM	Tot.	1,174,199	276,586	76,457	30,071	139,653	14,354	1,711,320
SC	SF	21,838	4,706	4,574	0	0	870	31,988
SC	SM	83,079	12,169	1,470	0	411	414	97,543
SC	SC	2,714,000	686,968	65,569	72,811	257,254	52,710	3,849,312
SC	ALA	75,248	13,286	3,760	0	715	0	93,009
SC	CC	8,412	1,286	0	0	0	0	9,698
SC	SOL	273	0	0	0	0	0	273
SC	NAP	443	0	0	0	0	0	443
SC	SON	236	236	0	0	0	0	472
SC	MAR	681	0	0	0	240	0	921
SC	Tot.	2,904,210	718,651	75,373	72,811	258,620	53,994	4,083,659
ALA	SF	58,464	17,642	76,492	373	378	265	153,614
ALA	SM	51,790	10,387	4,155	0	0	0	66,332
ALA	SC	112,043	12,010	58,285	0	985	0	183,323
ALA	ALA	1,971,816	509,685	116,943	61,651	393,461	39,716	3,093,272
ALA	CC	124,780	24,069	1,634	459	1,959	684	153,585
ALA	SOL	6,983	1,633	0	0	0	0	8,616
ALA	NAP	954	249	0	0	0	0	1,203
ALA	SON	1,177	0	0	0	0	0	1,177
ALA	MAR	5,901	1,119	0	0	0	0	7,020
ALA	Tot.	2,333,908	576,794	257,509	62,483	396,783	40,665	3,668,142
CC	SF	31,730	13,527	51,161	0	0	0	96,418
CC	SM	14,517	2,493	811	0	0	0	17,821
CC	SC	16,978	2,623	0	0	0	0	19,601
CC	ALA	225,048	32,080	13,871	557	851	283	272,690
CC	CC	1,315,828	333,095	25,065	11,710	129,391	28,233	1,843,322
CC	SOL	19,743	3,404	0	0	0	0	23,147
CC	NAP	3,226	61	0	0	0	0	3,287
CC	SON	3,088	218	0	0	0	0	3,306
CC	MAR	9,774	2,193	0	0	0	0	11,967
CC	Tot.	1,639,932	389,694	90,908	12,267	130,242	28,516	2,291,559



**Table 5.3.6 A (continued)**  
**1990 County-to-County TOTAL Trips by Mode (P/A Format)**

Cnty of Prod	Cnty of Attr	TOTAL Vehicle Driver	TOTAL Vehicle Passenger	TOTAL Transit Passenger	TOTAL Bicycle Rider	TOTAL Walk Only	TOTAL Other Means	TOTAL TOTAL Means
SOL	SF	9,797	4,025	3,863	366	0	373	18,424
SOL	SM	2,449	1,467	900	0	0	0	4,816
SOL	SC	1,094	0	0	0	0	0	1,094
SOL	ALA	15,925	2,548	933	0	0	0	19,406
SOL	CC	42,681	7,080	0	0	190	349	50,300
SOL	SOL	456,298	133,140	5,997	9,140	69,671	20,965	695,211
SOL	NAP	12,752	2,660	0	0	0	0	15,412
SOL	SON	3,896	1,700	0	0	0	0	5,596
SOL	MAR	4,971	3,421	0	0	0	0	8,392
SOL	Tot.	549,863	156,041	11,693	9,506	69,861	21,687	818,651
NAP	SF	1,460	0	113	0	0	0	1,573
NAP	SM	303	1,075	161	0	0	0	1,539
NAP	SC	265	0	0	0	0	0	265
NAP	ALA	2,287	375	167	0	0	0	2,829
NAP	CC	4,145	211	0	0	0	0	4,356
NAP	SOL	15,170	2,170	227	414	0	157	18,138
NAP	NAP	209,793	53,281	2,645	6,266	32,689	3,006	307,680
NAP	SON	4,872	1,004	0	0	306	0	6,182
NAP	MAR	1,142	317	0	0	0	0	1,459
NAP	Tot.	239,437	58,433	3,313	6,680	32,995	3,163	344,021
SON	SF	12,417	5,351	4,927	0	180	0	22,875
SON	SM	1,615	186	0	0	0	0	1,801
SON	SC	1,710	4,147	0	0	0	0	5,857
SON	ALA	3,043	0	0	0	0	0	3,043
SON	CC	909	716	0	0	0	0	1,625
SON	SOL	4,243	882	0	0	0	0	5,125
SON	NAP	8,519	1,630	0	0	305	0	10,454
SON	SON	745,731	178,362	18,120	22,087	77,635	39,474	1,081,409
SON	MAR	29,146	4,453	206	0	0	303	34,108
SON	Tot.	807,333	195,727	23,253	22,087	78,120	39,777	1,166,297
MAR	SF	44,124	7,681	16,570	0	190	216	68,781
MAR	SM	5,367	417	545	0	0	0	6,329
MAR	SC	2,292	0	0	0	297	0	2,589
MAR	ALA	11,876	959	546	0	0	0	13,381
MAR	CC	10,908	938	381	0	0	0	12,227
MAR	SOL	4,068	1,326	0	0	0	0	5,394
MAR	NAP	818	0	0	0	0	0	818
MAR	SON	16,323	1,944	504	0	219	1,316	20,306
MAR	MAR	410,767	74,261	11,216	12,358	48,248	5,999	562,849
MAR	Tot.	506,543	87,526	29,762	12,358	48,954	7,531	692,674
Tot.	SF	1,023,810	295,656	644,101	14,314	508,269	32,172	2,518,322
Tot.	SM	1,146,059	263,320	46,692	23,681	139,000	15,305	1,634,057
Tot.	SC	2,979,412	722,791	129,612	79,201	259,113	53,124	4,223,253
Tot.	ALA	2,372,817	570,072	160,740	62,208	395,027	40,183	3,601,047
Tot.	CC	1,525,683	371,149	33,613	12,169	131,956	29,266	2,103,836
Tot.	SOL	511,458	143,352	6,224	9,554	69,671	21,863	762,122
Tot.	NAP	237,191	58,186	2,645	6,266	32,994	3,006	340,288
Tot.	SON	778,002	184,603	18,903	22,087	78,160	40,790	1,122,545
Tot.	MAR	488,876	89,495	14,477	12,819	48,678	6,895	661,240
Tot.	Tot.	11063308	2,698,624	1,057,007	242,299	1,662,868	242,604	16966710

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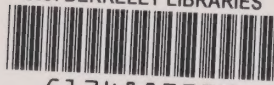
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